

"THE STORY OF OUR LIVES FROM YEAR TO YEAR."—SHAKESPEARE.

ALL THE YEAR ROUND.

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VERY HARD CASH.

BY THE AUTHOR OF "IT IS NEVER TOO LATE TO MEND."

CHAPTER XII.

AMONGST the curiosities of human reasoning is this: one forms a judgment on certain statements; they turn out incorrect, yet the judgment sound.

This occurs oftenest, when, to divine what any known person will do in a case stated, we go boldly by his character, his habits, or his interest: for these are great forces, towards which men gravitate through various and even contrary circumstances.

Now women, sitting at home out of detail's way, are somewhat forced, as well as naturally inclined, to rely on their insight into character; and, by this broad clue, often pass through false or discoloured data to a sound calculation.

Thus it was Mrs. Dodd applied her native sagacity to divine why Richard Hardie declined Julia for his son's wife, and how to make him withdraw that dissent: and the fair diviner was much mistaken in detail, but right in her conclusion; for Richard Hardie *was* at that moment the unlikeliest man in Barkington to decline Julia Dodd—with Hard Cash in five figures—for his daughter-in-law.

I am now about to make a revelation to the reader, that will incidentally lead him to Mrs. Dodd's conclusion, but by a different path.

The outline she gave her daughter and my reader of Richard Hardie's cold and prudent youth was substantially correct; but something had occurred since then, unknown to her, unknown to all Barkington. The centuries had blown a respectable bubble. About two hundred and fifty years ago, some genius, as unknown as the inventor of the lathe, laid the first wooden tramroad, to enable a horse to draw forty-two cwt. instead of seventeen. The coalowners soon used it largely. In 1738, iron rails were invented; but prejudice, stronger than that metal, kept them down, and the wooden ones in vogue, for some thirty years. Then iron prevailed.

Meantime, a much greater invention had been creeping on to join the metal way; I mean the locomotive power of steam; whose history is not needed here. Enough that in 1804 took place as

promising a wedding as civilisation ever saw; for then an engine built by Trevethick, a great genius frittered for want of pluck, drew carriages, laden with ten tons, five miles an hour on a Welsh railway. Then stout Stephenson came on the scene, and insisted on benefiting mankind in spite of themselves, and of shallow legislators, à priori reasoners, and a heavy Review, whose political motto was "*Stemus super antiquas vias*," which may be rendered, "Better stand still on turnpikes than move on rails."

His torments and triumph are history.

Two of his repartees seem neat: 1. To Lord Noodle, or Lord Doodle, which was it? objecting haughtily, "and suppose a cow should get in the way of your engine, sir?" he replied, "Why, then it would be bad—for the cow." The objector found he had overrated the obstructive power of his honoured parent.

2. To the à priori reasoners, who sat in their studies and demonstrated with complete unanimity that uncogged wheels would revolve on a smooth rail, but leave the carriage in statu quo, he replied by building an engine with Lord Ravensworth's noble aid, hooking on eight carriages, and rattling off up an incline. "*Solvitur ambulando*," quoth Stephenson the stout-hearted to Messrs. A Priori.

Next a coach ran on the Stockton and Darlington rail. Next the Liverpool and Manchester line was projected. Oh then what bitter opposition to the national benefactors, and the good of man.

Awake from the tomb echoes of dead Cant!

"The revolving wheels might move the engine on a rail; but what would that avail if they could not move them in the closet, and on a mathematical paper. Railways would be bad for canals, bad for morals, bad for highwaymen, bad for roadside inns: the smoke would kill the partridges ('Aha! thou hast touched us nearly,' said the country gentlemen), the travellers would go slowly to their destination, but swift to destruction."

And the Heavy Review, whose motto was "*Stemus super turnpikes*," offered "to back old Father Thames against the Woolwich railway for any sum." And Black Will, who drove the next heaviest ephemeral in the island, told a schoolboy, who now writes these pages, "there's nothing can ever be safe at twenty miles an hour,

without 'tis a bird in the air:" and confirmed it with an oath. Briefly, buzz! buzz! buzz!

Gray was crushed, Trevelthick driven out of the country, stout Steevie thwarted, badgered, taunted, and even insulted, and bespattered with dirt, I might say with dung; since his opponents discharged their own brains at him by speech and writing. At last, when after the manner of men they had manured their benefactor well, they consented to reap him. Railways prevailed, and increased, till lo and behold a prime minister with a spade delving one in the valley of the Trent. The tide turned; good working railways from city to city became an approved investment of genuine capital; notwithstanding the frightful frauds and extortion to which the projectors were exposed in a parliament, which, under a new temptation, showed itself as corrupt and greedy as any nation or age can parallel.

When this sober state of things had endured some time, there came a year that money was loose, and a speculative fever due in the whirligig of time. Then railways bubbled.

New ones were advertised, fifty a month, and all went to a premium. High and low scrambled for the shares, even when the projected line was to run from the town of Nought to the village of Nothing, across a goose common. The flame spread, fanned by prospectus and advertisement, two mines of glowing fiction, compared with which the legitimate article is a mere tissue of under statements; Princes sat in railway tenders, and clove the air like the birds whose effigies surmount their armorials; some stiffish Peers relaxed into Boards; Bishops warned their clergy against avarice, and buttered Hudson an inch thick for shares; and turned their little aprons into great pockets; men, stainless hitherto, put down their infants, nurses included, as independent subscribers, and bagged the coupons, capturi tartaros: nearly every thing, that had a name, and, by some immense fortuity, could write it, demanded its part in the new and fathomless source of wealth: a charwoman's two sons were living in a garret on fifteen shillings apiece per week; down went their excellencies' names for 37,000*l.* worth of bubbling iron; another shareholder applied imperiously from a house in Grosvenor-square; he had breakfasted on the steps. Once more, in Time's whirligig, gentlemen and their footmen jostled one another on the exchange, and a motley crew of peers and printers, vicars and admirals, professors, cooks, costermongers, cotton-spinners, waiters, coachmen, priests, potboys, bankers, braziers, dairy-men, mail-guards, barristers, spinsters, butchers, beggars, duchesses, rag merchants; in one word, of Nobs and Snobs; fought and scrambled pell mell for the popular paper; and all to get rich in a day.*

* For the humours of the time see the parliamentary return of Railway Subscribers, published 1846: Francis's British Railway: Evans's Commercial Crisis: and the pamphlets and journals of the day.

Richard Hardie had some money in existing railways; but he declined to invest his hard cash upon hypotheticals. He was repeatedly solicited to be a director; but always declined. Once he was offered a canny bribe of a thousand pounds to let his name go on a provisional committee. He refused with a characteristic remark; "I never buy any merchandise at a fancy price, not even hard cash."

Antidote to the universal mania, Barkington had this one wet blanket: an unpopular institution; but far more salutary than a damp sheet; especially in time of Bubble.

Nearly all his customers consulted Richard Hardie, and this was the substance of his replies: "The Bubbles of History, including the great one of my youth, were national, as well as individual, follies. It is not so now: the railways, that ruin their allottees and directors, will be pure additions to the national property, and some day remove one barrier more from commerce. The Dutch tulip frenzy went on a petty fancy; the Railway fury goes on a great fact. Our predecessors blew mere soap bubbles; we blow an iron bubble: but here the distinction ends; in 1825 the country undertook immediate engagements, to fulfil which a century's income would not have sufficed: to-day a thousand railway companies are registered, requiring a capital of six hundred million; and another thousand projected, to cost another five hundred million. Where is the money to come from? If the world was both cultivated and civilised (instead of neither), and this nation could be sold, with every building, ship, quadruped, jewel, and marketable female in it, it would not fetch the money to make these railways: yet the country undertakes to create them in three years *with its floating capital*. Arithmetic of Bedlam! The thing cannot last a year without collapsing."

Richard Hardie talked like this from first to last.

But, when he saw that shares invariably mounted; that even those who, for want of interest, had to buy them at a premium, sold them at a profit; when he saw paupers making large fortunes in a few months, by buying into every venture and selling the next week; he itched for his share of the booty, and determined to profit in act by the credulity of mankind as well as expose it in words. He made use of his large connexions to purchase shares; which he took care to part with speedily; he cleared a good deal of money; and that made him hungrier: he went deeper and deeper into what he called Flat catching, till one day he stood to win thirty thousand pounds at a coup.

But it is dangerous to be a convert, real or false, to Bubble: the game is to be rash at once, and turn prudent at the full tide. When Richard Hardie was up to his chin in these time bargains, came an incident not easy to foresee: the conductors of the Times, either from patriotism, or long sighted policy, punctured the bladder, though they were making thousands weekly by

the railway advertisements. The time was so well chosen, and the pin applied, that it was a death-blow: shares declined from that morning, and the inevitable panic was advanced a week or two. The more credulous speculators held on in hopes of a revival; but Hardie, who knew that the collapse had been merely hastened, saw the gravity of the situation, and sold largely at a heavy loss. But he could not sell all the bad paper he had accumulated for a temporary purpose: the panic came too swiftly, and too strong: soon there were no buyers at any price. The bitter was bit: the fox who had said "this is a trap; I'll lightly come and lightly go," was caught by the light fantastic toe. In this emergency he showed high qualities; vast financial ability, great fortitude, and that sense of commercial honour, which Mrs. Dodd justly called his semi-chivalrous sentiment. He mustered all his private resources to meet his engagements, and maintain his high position.

Then commenced a long and steady struggle, conducted with a Spartan dignity and self-command, and a countenance as close as wax. Little did any he in Barkington guess the doubts and fears, the hopes and despondencies, which agitated and tore the heart and brain that schemed, and throbbed, and glowed, and sickened by turns, beneath that steady modulated exterior. And so for months and months he secretly battled with insolvency; sometimes it threatened in the distance, sometimes at hand, but never caught him unawares; he provided for each coming danger, he encountered each immediate attack.

But not unscathed in morals. Just as matters looked brighter, came a concentration of liabilities he could not meet without emptying his tills, and so incurring the most frightful danger of all. He had provided for its coming, too; but a decline, greater than he had reckoned on, in the value of his good securities, made that provision inadequate. Then it was he committed a faux pas. He was one of his own children's trustees, and the other two signed after him like machines. He said to himself: "My honour is my children's; my position is worth thousands to them. I have sacrificed a fortune to preserve it; it would be madness to recoil now."

He borrowed three thousand pounds of the trust money, and, soon after, two thousand more: it kept him above water; but the peril, and the escape on such terms, left him gasping inwardly.

At last, when even his granite nature was almost worn down with labour, anxiety, and struggling all alone without a word of comfort—for the price of one grain of sympathy would have been "Destruction"—he shuffled off his iron burden, and breathed again.

One day he spent in a sort of pleasing lethargy, like a strong swimmer who, long and sore buffeted by the waves, has reached the shore at last.

The next day his cashier, a sharp-visaged, bald-headed old man called young Skinner, invited his attention rather significantly to the high amount

of certain balances compared with the cash at his (Skinner's) disposal.

"Indeed!" said Hardie, quietly; "that must be regulated." He added graciously, as if conferring a great favour, "I'll look into the books myself, Skinner."

He did more; he sat up all night over the books; and his heart died within him. Bankruptcy seemed coming towards him, slow perhaps, but sure. And meantime to live with the sword hanging over him by a hair!

Soon matters approached a crisis; several large drafts were drawn, which would have cleaned the bank out, but that the yearly rents of a wealthy nobleman had for some days past been flowing in.

This nobleman had gone to explore Syria and Assyria. He was a great traveller, who contrived to live up to his income at home, but had never been able to spend a quarter of it abroad, for want of enemies and masters—better known as friends and servants—to help him. So Hardie was safe for some months, unless there should be an extraordinary run on him, and that was not likely this year; the panic had subsided, and, nota bene, his credit had never stood higher. The reason was, he had been double-faced; had always spoken against railways: and his wise words were public, whereas his fatal acts had been done in the dark.

And now came a change, a bitter revulsion, over this tossed mind; hope and patience failed at last, and his virtue, being a thing of habit and traditions, rather than of the soul, wore out; nay more, this man, who had sacrificed so nobly to commercial integrity, filled with hate of his idol, and contempt of himself. "Idiot!" said he, "to throw away a fortune fighting for honour,—a greater bubble than that which has ruined me—instead of breaking like a man, with a hidden purse, and starting fair again as sensible traders do."

No honest man in the country that year repented of his vices so sincerely as Richard Hardie loathed his virtue. And he did not confine his penitence to sentiment; he began to spend his days at the bank poring over the books, and to lay out his arithmetical genius in a subtle process, that should enable him by degrees to withdraw a few thousands from human eyes for his future use, despite the feeble safeguards of the existing law. In other words Richard Hardie, like thousands before him, was fabricating and maturing a false balance sheet.

One man in his time plays many animals. Hardie, at this period, turned mole. He burrowed darkling into *æs alienum*. There is often one of these sleek miners in a Bank: it is a section of human zoology the journals have lately enlarged on, and drawn the painstaking creature grubbing and mining away to brief opulence; and briefer penal servitude than one could wish. I rely on my reader having read these really able sketches of my contemporaries; and spare him minute details, that possess

scarcely a new feature, except one: in that Bank was not only a mole; but a mole catcher: and, contrary to custom, the mole was the master, the mole catcher the servant. The latter had no hostile views; far from it: he was rather attached to his master: but his attention was roused by the youngest clerk, a boy of sixteen, being so often sent for into the Bank parlour, to copy into the books some arithmetical result, without its process. Attention soon became suspicion; and suspicion found many little things to feed on, till it grew to certainty. But the outer world was none the wiser: the mole catcher was no chatter-box; he was a solitary man; no wife nor mistress about him; and he revered the mole, and liked him better than anything in the world—*except money.*

Thus the great Banker stood, a colossus of wealth and stability to the eye, though ready to crumble at a touch; and indeed self-doomed; for bankruptcy was now his game.

This was a miserable man; far more miserable than his son whose happiness he had thwarted: his face was furrowed, and his hair thinned by secret struggle: and of all the things that gnawed him, like the fox, beneath his Spartan robe, none was more bitter than to have borrowed five thousand pounds of his children, and sunk it.

His wife's father, a keen man of business, who saw there was little affection on his side, had settled his daughter's money on her for life, and, in case of her death, on the children upon coming of age. The marriage of Alfred or Jane would be sure to expose him; settlements would be proposed; lawyers engaged to peer into the trust, &c. No; they *must* remain single for the present, or else marry wealth.

So, when his son announced an attachment to a young lady living in a suburban villa, it was a terrible blow, though he took it with outward calm, as usual. But if, instead of prating about beauty, virtue, and breeding, Alfred had told him hard cash in five figures could be settled by the bride's family on the young couple, he would have welcomed the wedding with great external indifference, but a secret gush of joy; for then he could throw himself on Alfred's generosity, and be released from that one corroding debt; perhaps allowed to go on drawing the interest of the remainder.

Thus, in reality, all the interests, with which this story deals, converged in one point; the fourteen thousand pounds. Richard Hardie's opposition was a mere misunderstanding; and, if he had been told of the Cash, and to what purpose Mrs. Dodd destined it, and then put on board the Agra in the Straits of Gaspar, he would have calmly taken off his coat, and helped defend the bearer of it against all assailants as stoutly, and to all appearance, imperturbably, as he had fought that other bitter battle at home. For there was something heroic in this erring man; though his rectitude depended on circumstances.

CHAPTER XIII.

THE way the pirate dropped the mask, showed his black teeth, and bore up in chase, was terrible: so dilates and bounds the sudden tiger on his unwary prey. There were stout hearts among the officers of the peaceable Agra; but danger in a new form shakes the brave; and this was their first pirate: their dismay broke out in ejaculations not loud but deep. "Hush!" said Dodd, doggedly; "the lady!"

Mrs. Beresford had just come on deck to enjoy the balmy morning.

"Sharpe," said Dodd, in a tone that conveyed no suspicion to the new comer, "set the royals, and flying jib.—Port!"

"Port it is," cried the man at the helm.

"Steer due South!" And, with these words in his mouth, Dodd dived to the gun deck.

By this time elastic Sharpe had recovered the first shock; and the order to crowd sail on the ship galled his pride and his manhood; he muttered, indignantly, "the white feather!" This eased his mind, and he obeyed orders briskly as ever. While he and his hands were setting every rag the ship could carry on that tack, the other officers, having unluckily no orders to execute, stood gloomy and helpless, with their eyes glued, by a sort of sombre fascination, on that coming fate: and they literally jumped and jarred, when Mrs. Beresford, her heart opened by the lovely day, broke in on their nerves with her light treble.

"What a sweet morning, gentlemen. After all a voyage is a delightful thing: oh, what a splendid sea! and the very breeze is warm. Ah, and there's a little ship sailing along: here, Freddy, Freddy darling, leave off beating the sailors' legs, and come here and see this pretty ship. What a pity it is so far off. Ah! ah! what is that dreadful noise?"

For her horrible small talk, that grated on those anxious souls like the mockery of some infantine fiend, was cut short by ponderous blows and tremendous smashing below. It was the captain staying in water casks: the water poured out at the scuppers.

"Clearing the lee guns," said a middy, off his guard.

Colonel Kenealy pricked up his ears, drew his cigar from his mouth, and smelt powder. "What, for action?" said he, briskly. "Where's the enemy?"

Fullalove made him a signal, and they went below.

Mrs. Beresford had not heard, or not appreciated the remark: she prattled on till she made the mates and midshipmen shudder.

Realise the situation, and the strange incongruity between the senses and the mind in these poor fellows! The day had ripened its beauty; beneath a purple heaven shone, sparkled, and laughed, a blue sea, in whose waves the tropical sun seemed to have fused his beams; and beneath that fair, sinless, peaceful sky, wafted by a balmy breeze over those smiling, transparent, golden

waves, a bloodthirsty Pirate bore down on them with a crew of human tigers; and a lady babble babble babble babble babble babbled in their quivering ears.

But now the captain came bustling on deck, eyed the loftier sails, saw they were drawing well, appointed four midshipmen a staff to convey his orders; gave Bayliss charge of the carronades, Grey of the cutlasses, and directed Mr. Tickell to break the bad news gently to Mrs. Beresford, and to take her below to the orlop deck; ordered the purser to serve out beef, biscuit, and grog to all hands, saying, "Men can't work on an empty stomach: and fighting is hard work;" then beckoned the officers to come round him. "Gentlemen," said he, confidentially, "in crowding sail on this ship I had no hope of escaping that fellow on this tack, but I was, and am, most anxious to gain the open sea, where I can square my yards and run for it, if I see a chance. At present I shall carry on till he comes up within range: and then, to keep the Company's canvas from being shot to rags, I shall shorten sail; and to save ship and cargo and all our lives, I shall fight while a plank of her swims. Better be killed in hot blood than walk the plank in cold."

The officers cheered faintly; the captain's dogged resolution stirred up theirs.

The pirate had gained another quarter of a mile and more. The ship's crew were hard at their beef and grog, and agreed among themselves it was a comfortable ship; they guessed what was coming, and woe to the ship in that hour if the captain had not won their respect. Strange to say, there were two gentlemen in the *Agra* to whom the pirate's approach was not altogether unwelcome. Colonel Kenealy and Mr. Fullalove were rival sportsmen; and rival theorists. Kenealy stood out for a smooth bore, and a four ounce ball; Fullalove for a rifle of his own construction. Many a doughty argument they had, and many a bragging match; neither could convert the other. At last Fullalove hinted that by going ashore at the Cape, and getting each behind a tree at one hundred yards, and popping at one another, one or other would be convinced.

"Well, but," said Kenealy, "if he is dead, he will be no wiser; besides, to a fellow like me, who has had the luxury of popping at his enemies, popping at a friend is poor insipid work."

"That is true," said the other, regretfully. "But I reckon we shall never settle it by argument."

Theorists are amazing creatures: and it was plain, by the alacrity with which these good creatures loaded the rival instruments, that to them the pirate came not so much as a pirate as a solution. Indeed, Kenealy, in the act of charging his piece, was heard to mutter, "Now, this is lucky." However, these theorists were no sooner loaded, than something occurred to make them more serious. They were sent for in

haste to Dodd's cabin; they found him giving Sharpe a new order.

"Shorten sail to the tautsles and jib, get the colours ready on the halyards, and then send the men aft!"

Sharpe ran out full of zeal, and tumbled over Ramgolam, who was stooping remarkably near the keyhole. Dodd hastily bolted the cabin door, and looked with trembling lip and piteous earnestness in Kenealy's face and Fullalove's. They were mute with surprise at a gaze so eloquent yet mysterious.

He manned himself, and opened his mind to them with deep emotion, yet not without a certain simple dignity.

"Colonel," said he, "you are an old friend; you, sir, are a new one; but I esteem you highly, and what my young gentlemen chaff you about, you calling all men brothers, and making that poor negro love you, instead of fear you, that shows me you have a great heart. My dear friends, I have been unlucky enough to bring my children's fortune on board this ship: here it is, under my shirt. Fourteen thousand pounds! This weighs me down. Oh, if they should lose it after all! Do pray give me a hand apiece, and pledge your sacred words to take it home safe to my wife at Barkington, if you, or either of you, should see this bright sun set to-day, and I should not."

"Why Dodd, old fellow," said Kenealy, cheerfully, "this is not the way to go into action."

"Colonel," replied Dodd, "to save this ship and cargo, I must be wherever the bullets are, and I will, too."

Fullalove, more sagacious than the worthy colonel, said earnestly: "Captain Dodd, may I never see Broadway again, and never see Heaven at the end of my time, if I fail you! There's my hand."

"And mine," said Kenealy, warmly.

They all three joined hands, and Dodd seemed to cling to them.

"God bless you both! God bless you! Oh, what a weight your true hands have pulled off my heart. Good-by, for a few minutes. The time is short. I'll just offer a prayer to the Almighty for wisdom, and then I'll come up and say a word to the men, and fight the ship; according to my lights."

Sail was no sooner shortened, and the crew ranged, than the captain came briskly on deck, saluted, jumped on a carronade, and stood erect. He was not the man to show the crew his forebodings.

(Pipe.) "Silence fore and aft."

"My men, the schooner coming up on our weather quarter is a Portuguese pirate. His character is known; he scuttles all the ships he boards, dishonours the women, and murders the crew. We cracked on to get out of the narrows, and now we have shortened sail to fight this blackguard, and teach him to molest a British ship. I promise, in the Company's name, twenty

pounds prize money to every man before the mast if we beat him off or outmanœuvre him; thirty if we sink him; and forty if we tow him astern into a friendly port. Eight guns are clear below, three on the weather side, five on the lee; for, if he knows his business, he will come up on the lee quarter; if he doesn't, that is no fault of yours or mine. The muskets are all loaded, the cutlasses ground like razors——"

"Hurrah!"

"We have got women to defend——"

"Hurrah!"

"A good ship under our feet, the God of justice over head, British hearts in our bosoms, and British colours flying—run 'em up!—over our heads." (The ship's colours flew up to the fore, and the Union Jack to the mizen peak.) "Now lads, I mean to fight this ship while a plank of her (stamping on the deck) swims beneath my foot, and—WHAT DO YOU SAY?"

The reply was a fierce "hurrah!" from a hundred throats, so loud, so deep, so full of volume, it made the ship vibrate, and rang in the creeping on pirate's ears. Fierce, but cunning, he saw mischief in those shortened sails, and that Union Jack, the terror of his tribe, rising to a British cheer; he lowered his mainsail, and crawled up on the weather quarter. Arrived within a cable's length, he double reefed his foresail to reduce his rate of sailing nearly to that of the ship; and the next moment a tongue of flame, and then a gush of smoke, issued from his lee bow, and the ball flew screaming like a seagull over the Agra's mizen top. He then put his helm up, and fired his other bow-chaser, and sent the shot hissing and skipping on the water past the ship. This prologue made the novices wince. Bayliss wanted to reply with a carronade; but Dodd forbade him sternly, saying, "If we keep him aloof we are done for."

The pirate drew nearer, and fired both guns in succession, hulled the Agra amidships, and sent an eighteen pound ball through her foresail. Most of the faces were pale on the quarter deck; it was very trying to be shot at, and hit, and make no return. The next double discharge sent one shot smash through the stern cabin window, and splintered the bulwark with another, wounding a seaman slightly.

"LIE DOWN FORWARD!" shouted Dodd, through his trumpet. "Bayliss, give him a shot."

The carronade was fired with a tremendous report, but no visible effect. The pirate crept nearer, steering in and out like a snake to avoid the carronades, and firing those two heavy guns alternately into the devoted ship. He hulled the Agra now nearly every shot.

The two available carronades replied noisily, and jumped, as usual; they sent one thirty-two pound shot clean through the schooner's deck and side; but that was literally all they did worth speaking of.

"Curse them!" cried Dodd; "load them with grape! they are not to be trusted with ball. And all my eighteen-pounders dumb! The

coward won't come alongside and give them a chance."

At the next discharge the pirate chipped the mizen mast, and knocked a sailor into dead pieces on the forecastle. Dodd put his helm down ere the smoke cleared, and got three carronades to bear, heavily laden with grape. Several pirates fell, dead or wounded, on the crowded deck, and some holes appeared in the foresail; this one interchange was quite in favour of the ship.

But the lesson made the enemy more cautious; he crept nearer, but steered so adroitly, now right astern, now on the quarter, that the ship could seldom bring more than one carronade to bear, while he raked her fore and aft with grape and ball.

In this alarming situation, Dodd kept as many of the men below as possible; but, for all he could do, four were killed and seven wounded.

Fullalove's word came too true: it was the swordfish and the whale: it was a fight of hammer and anvil; one hit, the other made a noise. Cautious and cruel, the pirate hung on the poor hulking creature's quarters and raked her at point blank distance. He made her pass a bitter time. And her captain! To see the splintering hull, the parting shrouds, the shivered gear, and hear the shrieks and groans of his wounded; and he unable to reply in kind! The sweat of agony poured down his face. Oh, if he could but reach the open sea, and square his yards, and make a long chase of it; perhaps fall in with aid. Wincing under each heavy blow, he crept doggedly, patiently, on, towards that one visible hope.

At last, when the ship was cloved with shot, and peppered with grape, the channel opened: in five minutes more he could put her dead before the wind.

No. The pirate, on whose side luck had been from the first, got half a broadside to bear at long musket shot, killed a midshipman by Dodd's side, cut away two of the Agra's mizen shrouds, wounded the gaff: and cut the jib stay; down fell that powerful sail into the water, and dragged across the ship's forefoot, stopping her way to the open sea she panted for; the mates groaned; the crew cheered stoutly, as British tars do in any great disaster; the pirates yelled with ferocious triumph, like the devils they looked.

But most human events, even calamities, have two sides. The Agra being brought almost to a standstill, the pirate forged ahead against his will, and the combat took a new and terrible form. The elephant gun popped, and the rifle cracked, in the Agra's mizen top, and the man at the pirate's helm jumped into the air and fell dead: both Theorists claimed him. Then the three carronades peppered him hotly; and he hurled an iron shower back with fatal effect. Then at last the long 18-pounders on the gun-deck got a word in. The old Niler was not the man to miss a vessel alongside in a quiet sea; he sent two round shot clean through him; the third splintered his bulwark, and swept across his deck.

"His masts! fire at his masts!" roared Dodd to Monk, through his trumpet; he then got the jib clear, and made what sail he could without taking all the hands from the guns.

This kept the vessels nearly alongside a few minutes, and the fight was hot as fire. The pirate now for the first time hoisted his flag. It was black as ink. His crew yelled as it rose: the Britons, instead of quailing, cheered with fierce derision; the pirate's wild crew of yellow Malays, black chinless Papuans, and bronzed Portuguese, served their side guns, 12-pounders, well and with ferocious cries; the white Britons, drunk with battle now, naked to the waist, grimed with powder, and spotted like leopards with blood, their own and their mates', replied with loud undaunted cheers, and deadly hail of grape from the quarter deck; while the master-gunner and his mates, loading with a rapidity the mixed races opposed could not rival, hulled the schooner well between wind and water, and then fired chain shot at her masts, as ordered, and began to play the mischief with her shrouds and rigging. Meantime, Fullalove and Kenealy, aided by Vespasian, who loaded, were quietly butchering the pirate crew two a minute, and hoped to settle the question they were fighting for; smooth bore *v.* rifle: but unluckily neither fired once without killing; so "there was nothing proven."

The pirate, bold as he was, got sick of fair fighting first; he hoisted his mainsail and drew rapidly ahead, with a slight bearing to windward, and dismounted a carronade and stove in the ship's quarter-boat, by way of a parting kick.

The men hurled a contemptuous cheer after him; they thought they had beaten him off. But Dodd knew better. He was but retiring a little way to make a more deadly attack than ever: he would soon wear, and cross the Agra's defenceless bows, to rake her fore and aft at pistol-shot distance; or grapple, and board the enfeebled ship two hundred strong.

Dodd flew to the helm, and with his own hands put it hard a weather, to give the deck guns one more chance, the last, of sinking or disabling the Destroyer. As the ship obeyed, and a deck gun bellowed below him, he saw a vessel running out from Long Island, and coming swiftly up on his lee quarter.

It was a schooner. Was she coming to his aid?

Horror! A black flag floated from her foremast head.

While Dodd's eyes were staring almost out of his head at this death blow to hope, Monk fired again; and just then a pale face came close to Dodd's, and solemn voice whispered in his ear: "*Our ammunition is nearly done!*" It was the first mate.

Dodd seized his hand convulsively, and pointed to the pirate's consort coming up to finish them; and said, with the calm of a brave man's despair, "Cutlasses! and die hard!"

At that moment the master gunner fired his

last gun. It sent a chain shot on board the retiring pirate, took off a Portuguese head and spun it clean into the sea ever so far to windward, and cut the schooner's foremast so nearly through that it trembled and nodded, and presently snapped with a loud crack, and came down like a broken tree, with the yard and sail; the latter overlapping the deck and burying itself black flag and all in the sea; and there, in one moment, lay the Destroyer buffeting and wriggling—like a heron on the water with his long wing broken—an utter cripple.

The victorious crew raised a stunning cheer.

"Silence!" roared Dodd, with his trumpet. "All hands make sail!"

He set his courses, bent a new jib, and stood out to windward close hauled, in hopes to make a good offing, and then put his ship dead before the wind, which was now rising to a stiff breeze. In doing this he crossed the crippled pirate's stern, within eighty yards; and sore was the temptation to rake him; but his ammunition being short, and his danger being imminent from the other pirate, he had the self-command to resist the great temptation. The pirates, though in great confusion, and expecting a broadside, trained a gun dead aft.

Dodd saw, and hailed the mizen top: "Can you two hinder them from firing that gun?"

"I rather think we can," said Fullalove, "eh, colonel?" and tapped his long rifle.

The ship's bows no sooner crossed the schooner's stern than a Malay ran aft with a linstock. Pop went the colonel's ready carbine, and the Malay fell over dead, and the linstock flew out of his hand. A tall Portuguese, with a movement of rage, snatched it up, and darted to the gun: the Yankee rifle cracked, but a moment too late. Bang! went the pirate's gun, and crashed into the Agra's side, and passed nearly through her.

"Ye missed him! Ye missed him!" cried the rival theorist, joyfully. He was mistaken: the smoke cleared, and there was the pirate captain leaning wounded against the mainmast with a Yankee bullet in his shoulder, and his crew uttering yells of dismay and vengeance. They jumped, and raged, and brandished their knives, and made horrid gesticulations of revenge; and the white eyeballs of the Malays and Papuans glittered fiendishly; and the wounded captain raised his sound arm and had a signal hoisted to his consort, and she bore up in chase, and jamming her fore latine flat as a board, lay far nearer the wind than the Agra could, and sailed three feet to her two besides. On this superiority being made clear, the situation of the Merchant vessel, though not so utterly desperate as before Monk fired his lucky shot, became pitiable enough. If she ran before the wind, the fresh pirate would cut her off: if she lay to windward, she might postpone the inevitable and fatal collision with a foe as strong as that she had only escaped by a rare piece of luck; but this would give the crippled pirate time to refit and unite to

destroy her. Add to this the failing ammunition, and the thinned crew!

Dodd cast his eyes all round the horizon for help.

The sea was blank.

The bright sun was hidden now; drops of rain fell, and the wind was beginning to sing; and the sea to rise a little.

"Gentlemen," said he, "let us kneel down and pray for wisdom, in this sore strait."

He and his officers knelt on the quarter deck. When they rose, Dodd stood rapt about a minute; his great thoughtful eye saw no more the enemy, the sea, nor anything external; it was turned inward. His officers looked at him in silence.

"Sharpe," said he, at last, "there *must* be a way out of them with such a breeze as this is now; if we could but see it."

"Ay, *if*," groaned Sharpe.

Dodd mused again.

"About ship!" said he, softly, like an absent man.

"Ay, ay, sir."

"Steer due north!" said he, still like one whose mind was elsewhere.

While the ship was coming about, he gave minute orders to the mates and the gunner, to ensure co-operation in the first part of a delicate and dangerous manœuvre he had resolved to try.

The wind was W.N.W.: he was standing north: one pirate lay on his lee beam stopping a leak between wind and water, and hacking the deck clear of his broken masts and yards. The other fresh, and thirsting for the easy prey, came up from the N.E., to weather on him and hang on his quarter, pirate fashion.

When they were distant about a cable's length, the fresh pirate, to meet the ship's change of tactics, changed his own, put his helm up a little, and gave the ship a broadside, well aimed but not destructive, the guns being loaded with ball.

Dodd, instead of replying, as was expected, took advantage of the smoke and put his ship before the wind. By this unexpected stroke the vessels engaged ran swiftly at right angles towards one point, and the pirate saw himself menaced with two serious perils; a collision, which might send him to the bottom of the sea in a minute, or a broadside delivered at pistol-shot distance, and with no possibility of his making a return. He must either put his helm up or down. He chose the bolder course, put his helm hard a lee, and stood ready to give broadside for broadside. But ere he could bring his lee guns to bear, he must offer his bow for one moment to the ship's broadside; and in that moment, which Dodd had provided for, Monk and his mates raked him fore and aft at short distance with all the five guns that were clear on that side; the carronades followed and mowed him slantwise with grape and canister; the almost simultaneous discharge of eight guns made the ship tremble, and enveloped her in thick smoke; loud shrieks and

groans were heard from the schooner: the smoke cleared; the pirate's mainsail hung on deck, his jib-boom was cut off like a carrot and the sail struggling; his foresail looked lace, lanes of dead and wounded lay still or writhing on his deck, and his lee scuppers ran blood into the sea.

The ship rushed down the wind, leaving the schooner staggered and all abroad. But not for long; the pirate fired his broadside after all, at the now flying Agra, split one of the carronades in two, and killed a Lascar, and made a hole in the foresail; this done, he hoisted his mainsail again in a trice, sent his wounded below, flung his dead overboard, to the horror of their foes, and came after the flying ship, yawing and firing his bow chasers. The ship was silent. She had no shot to throw away. Not only did she take these blows like a coward, but all signs of life disappeared on her, except two men at the wheel, and the captain on the main gangway.

Dodd had ordered the crew out of the rigging, armed them with cutlasses, and laid them flat on the forecastle. He also compelled Kenealy and Fullalove to come down out of harm's way, no wiser on the smooth bore question than they went up.

The great patient ship ran environed by her foes; one destroyer right in her course, another in her wake, following her with yells of vengeance, and pounding away at her—but no reply.

Suddenly the yells of the pirates on both sides ceased, and there was a moment of dead silence on the sea.

Yet nothing fresh had happened.

Yes, this had happened: the pirates to windward, and the pirates to leeward, of the Agra, had found out, at one and the same moment, that the merchant captain they had lashed, and bullied, and tortured, was a patient but tremendous man. It was not only to rake the fresh schooner he had put his ship before the wind, but also by a double, daring, masterstroke to hurl his monster ship bodily on the other. Without a foresail she could never get out of his way. Her crew had stopped the leak, and cut away and unshipped the broken foremast, and were stepping a new one, when they saw the huge ship bearing down in full sail. Nothing easier than to slip out of her way could they get the foresail to draw; but the time was short, the deadly intention manifest, the coming destruction swift.

After that solemn silence came a storm of cries and curses, as their seamen went to work to fit the yard and raise the sail; while their fighting men seized their matchlocks and trained the guns. They were well commanded by an heroic able villain. Astern the consort thundered; but the Agra's response was a dead silence more awful than broadsides.

For then was seen with what majesty the enduring Anglo-Saxon fights.

One of that indomitable race on the gangway, one at the foremast, two at the wheel, conned and steered the great ship down on a hundred match-

locks and a grinning broadside, just as they would have conned and steered her into a British harbour.

"Star-board!" said Dodd, in a deep calm voice, with a motion of his hand.

"Starboard it is."

The pirate wriggled ahead a little. The man forward made a silent signal to Dodd.

"Port!" said Dodd, quietly.

"Port it is."

But at this critical moment the pirate astern sent a mischievous shot, and knocked one of the men to atoms at the helm.

Dodd waved his hand without a word, and another man rose from the deck, and took his place in silence, and laid his unshaking hand on the wheel stained with that man's warm blood whose place he took.

The high ship was now scarce sixty yards distant; *she seemed to know*: she reared her lofty figure-head with great awful shoots into the air.

But now the panting pirates got their new-foresail hoisted with a joyful shout: it drew, the schooner gathered way, and their furious consort close on the Agra's heels just then scourged her deck with grape.

"Port!" said Dodd, calmly.

"Port it is."

The giant prow darted at the escaping pirate. That acre of coming canvass took the wind out of the swift schooner's foresail; it flapped: oh, then she was doomed! That awful moment parted the races on board her; the Papuans and Sooloos, their black faces livid and blue with horror, leaped yelling into the sea, or crouched and whimpered; the yellow Malays and brown Portuguese, though blanched to one colour now, turned on death like dying panthers, fired two cannon slap into the ship's bows, and snapped their muskets and matchlocks at their solitary executioner on the ship's gangway, and out flew their knives like crushed wasp's stings. CRASH! the Indian's cut-water in thick smoke beat in the schooner's broadside: down went her masts to leeward like fishing-rods whipping the water; there was a horrible shrieking yell; wild forms leaped off on the Agra, and were hacked to pieces almost ere they reached the deck—a surge, a chasm in the sea, filled with an instant rush of engulfing waves, a long, awful, grating, grinding noise, never to be forgotten in this world, all along under the ship's keel—and the fearful majestic monster passed on over the blank she had made, with a pale crew standing silent and awestruck on her deck; a cluster of wild heads and staring eyeballs bobbing like corks in her foaming wake, sole relic of the blotted-out destroyer; and a wounded man staggering on the gangway, with hands uplifted and staring eyes.

Shot in two places, the head and the breast!

With a loud cry of pity and dismay, Sharpe, Fullalove, Kenealy, and others, rushed to catch him; but, ere they got near, the captain of the triumphant ship fell down on his hands and

knees, his head sunk over the gangway, and his blood ran fast and pattered in the midst of them, on the deck he had defended so bravely.

BEHIND THE SCENES AT VESUVIUS.

WHEN I first began what proved to be a long and intimate acquaintance with Mount Vesuvius, its condition and general appearance were very different from what they now are. It was in continuous but very harmless action. For more than two years, during which I lived in full view of the volcano, there was never, so far as I know, a pause of more than five minutes between its eruptions. A jet of red-hot stones sprang gracefully from the topmost peak, most part of which fell back into the capacious throat from which they had issued, while the few which escaped never came far enough to reach a visitor. Constant processions of chair-bearers, carrying male and female Guy Fawkeses, had worn a firm staircase upon the extreme edge of an old lava-stream, up which they proceeded safely and easily, not forgetting, however, so soon as they had reached the edge of the cone, to throw themselves down in well-studied attitudes of exhaustion, mutely appealing to the sympathies of their burdens. A descent of some ten feet led into the crater, which was entirely floored with lava, blue and brown rock, everywhere at the same level, save at one point where it rose into a mass of magnificent precipices, gorgeously coloured in all hues of green, brown, and orange. Close against these precipices stood the central chimney of soft hot black ashes, in shape a gigantic tile-kiln, continually self-augmented by the stones flung from its own throat. The circumference of the crater was, at that time, about a mile and a half, the edge tolerably horizontal, excepting on the left of the ascent, where it rose into a high peak, higher even than the central chimney or than the adjacent mountain of Somma, which is the broken shell of the old Vesuvius, destroyer of the buried cities. Across the field of lava a path had been formed by piling on each hand any inconvenient block, and along this path the refreshed chairmen used to trot to the opposite edge of the cone, whence a perfectly map-like view of Pompeii is attained, the streets, squares, temples, and amphitheatre looking like an architectural toy.

A descending path through the soft grey ash of the cone having been also established, the whole arrangement of the volcano as a show-place seemed perfect, and looked to the casual visitor as satisfactory and as likely to last as the institutions of the country looked to the same visitor. Yet a steady and very gradual process of change was going on all the while. From time to time along the surface of the lava-field would be seen a line of smoke, looking by day exactly like burning peat on a moor, but at night a streak of fire, a streamlet of burning lava, which flowing—as lava almost always does—along the top of a self-made ridge, usually expended its force after a course of eighty or a

hundred yards, and in a day or two ceased flowing entirely, to be succeeded by a similar rivulet in another part of the crater. Small as were these streams, being rarely above three feet diameter, their constant incursions began to produce a visible augmentation in the rocky mass, which approached gradually to the trodden pathway, and at length pushing before it the boulders, which had been used as bourne-stones, compelled the chair-bearers to move closer to the foot of the Palo precipice. The phenomena, too, were more threatening and more fantastic. One night it was a brilliant river of fire in a trench, a furlong in length, some ten feet wide, perfectly straight, and with banks as well "pionied and twilled"—if that be the right reading—as could have been done by the most accomplished navy. The stream ran fiercely enough where visible, but vanished mysteriously under a precipice, even as it had emerged. Some days later, I found it—dry, I was going to say, but I mean no longer flowing, and what had been liquid was now a well-laid street of blue pavement, of which I more than once gladly availed myself to relieve "uneasy steps over the burning marl." Another time we came suddenly upon an oval gap, surrounded by perpendicular rocks, at the bottom of which the lava rolled in steady solemn billows. The glare and the sound of the fiery lake were singularly awful. In a few days this likewise vanished, leaving a gaping irregular hole too precipitous and sulphur-stained for safe access. By this time the field of lava had swelled in dimensions till the whole crater was brimmed with rock. The butterflies, I noticed, had disappeared, and the ants who, on anti-vegetarian principles, had established their colonies in the utterly arid dust of the mountain, had all departed. The mountain was evidently "miching mallico," but the old breathing-place above went on with its accustomed regularity, and there were no signs of a great outbreak. Even when the lava stream at length poured over the edge towards Torre del Annunziata, the process was so gradual that we could watch with safety the ground behind us covered by the hot stream, conscious that, by a very small exertion, we could outstrip the descending mass, and, passing safely in front of it, regain our former position. The fact is, that lava, though irresistible, is a very slow-moving foe. Certain poetic descriptions of heroes clased hard by the fast-flowing fire are sadly at variance with truth. Nor is it easy to imagine human life in danger from a lava-stream, unless in the improbable case of a very sound sleeper finding his house surrounded during the night. Boiling water and mephitic gases are the more rapid and deadly weapons of the volcanic arsenal, and these are happily rare.

All matters being now duly disposed in order for attack, it was not wonderful that the general and his staff should appear on the field, and on the same afternoon our small party, as we returned round the edge of the crater, in the direction of Pompei, met with a startling apparition. A brisk wind from the sea carried

before it the vapours from the central mouth towards the jagged and saw-like edges of Somma, when, looking in that direction, we suddenly observed a human figure of gigantic size. The giant strode along the crumbling and perpendicular cliffs, and was followed by two others, one a youthful monster not above forty feet high.

Whether the Titans escaped from Zeus's prison-chambers beneath our feet were taking an evening walk, or whether the Brocken spectre, accompanied by his family, had indulged himself with a trip to Naples, we could not decide, but the spectres kept side by side with us as we walked on, and soon began their old game of mimicry just as I remembered to have read of the Hartz giant in that darling of my childhood, the Hundred Wonders. The practical, optical, and altogether irreverential spirit of the age now seized on us, and urged us to make fun of the poor monsters by jumping and gesticulating, thereby compelling the ghosts to leap forty feet high, and wrestle with the sulphurous smoke on which their shapes were visible. This phenomenon may tend to explain in some degree a puzzling circumstance in the recorded history of Old Booty, which was the origin of the "pull devil pull baker" slide of the old galante-show lantern. It may be remembered that the captain of a schooner declared that he had seen the broad-brimmed ship chandler, under whose regimen he and his crew had pined, "go to the devil," and, being brought before a magistrate by the relatives of the deceased Quaker, supported himself by the testimony of his crew, who one and all deposed to having actually seen the Quaker's image pursued round the crater of Stromboli by certain horned and tailed gentry of ominous aspect. Admitting the graminivorous appendages and the identity of the sufferer to be the work of imagination, it is still difficult to account for the optical delusion, unless by supposing that a somewhat similar combination to that described above had enabled the crew to witness the spectres of some men then actually on the mountain. The exclamation of the skipper, "Why, that's old Booty!"—expletives omitted—acting on imaginations sharpened by tough junk and weevilly biscuit, will explain their conviction that they had witnessed the condign punishment of the purveyor of these dainties.

An equally striking and less amusing apparition was witnessed at a later period. When dressing, in the calm spring mornings before the sea-breeze had set in, my attention had been often drawn to a curious appearance at the mouth of the volcano. Instead of the ordinary cloudy pennant which by floating landwards indicated fine weather, or by clinging to and rolling down the sea-face of the volcano gave token of rain, a thin rod of smoke would at times project perpendicularly upwards, surmounted by a small disk apparently spinning round. Was, then, Typhoeus proposing to set up as a street juggler? The Terraqueous Titans of Tartarus would look well in the bill. If so, his skill or his extensive chin gave him superhuman advantages, for I have seen three and even four plates at once spinning on their respective sticks.

The mystery was at length cleared up, and that in a manner which at first was really startling. I was sitting alone on the edge of the crater, sketching the sulphury precipices previously mentioned, as the most picturesque object then offered by the volcano. The utter silence of a calm hot noon prevailed; save my comrade (out of sight somewhere) there was not a soul on the mountain, and the usual sea-breeze had either not set in or not reached to that height. The only sound which broke, or rather intensified, the silence was the occasional pant from the mountain followed by its harmless jet of stones, to which custom had rendered us so indifferent as that we never raised our heads from our paper. Suddenly a wild and wailing sound as of tortured spirits filled the whole air around and above me, dying gradually away through the atmosphere. The effect on the nerves in the midst of this total solitude may be fairly deemed the reverse of agreeable. I rose hastily, and went in search of my friend, whom I met returning towards me, equally surprised, and I may honestly say equally alarmed, with myself. Various conjectures, all equally unsatisfactory, were propounded, when again the wild yell filled the air, and died out as before. It undoubtedly proceeded from the sky, but in the vicinity of the central orifice, and we accordingly set ourselves to watch steadily the phenomena of eruption. Our pains were soon rewarded. The regular process was an explosion which, from its sound, appeared to originate not more than twenty or thirty feet below the volcano's mouth, accompanied by a slight concussion of the ground, and followed in a few seconds by the jet of stones and ashes. It now appeared that occasionally, instead of the usual shower, a huge smoke-globe, filling the whole gaping mouth, was vomited forth, and hurled upward to a far greater height than the stones attained. This globe appeared in violent agitation, which I can describe only by saying that every particle of smoke seemed anxious to hide itself in the centre of the mass. In a few seconds the struggle resulted in the disruption of the globe, which then assumed the form of a ring, such as may often be seen in the smoke of a discharged cannon, or can be produced in cigar-smoke by skilful artists, and floated gradually away, the edges still retaining their self-rotatory motion. The formation and disappearance of the ring were accompanied by the impressive wail which had so startled us; and further investigation convinced us that to these smoke-globes were due the phenomena of plate-spinning described above, although when close to the crater, as we now were, it was difficult to trace the thin line of smoke representing the stick.

The last of our experiences is worth recording, as it gave us as close an insight into Vulcan's forge as is ever granted to mortals. It was a fine afternoon, and the mountain was gay with visitors. One, an American, I had previously met at the table d'hôte of the Hôtel des Bergues in Geneva. At that time he had begun conversation by informing me that, from my appearance, he had supposed me to be

American, but that my pronunciation of the *English* language soon showed him that I was English. Naturally I said, "Just as your pronunciation showed me that you were American." "Well now!" with an air of simple wonderment, "haow was that?" He then went on to ask if our stores in London were as handsome as the stores in Paris? I confessed with some humility that our shops scarcely equalled in brilliancy those of the Boulevards and the Rue de Rivoli. Ah, well! so he had heard. In that case he shouldn't think much of them: the Paris stores were noway to be compared to the stores in New York. In fact, everything in Europe (he had landed at Havre a fortnight ago) seemed worn out; he had been disappointed with everything he had seen, and expected he should be disappointed in everything he did see. I looked sheepishly for support towards Mont Blanc, which was fast fading from rose-tint to ghostly grey, and endeavoured feebly to cover my (and Europe's) defeat by a metaphysical cobweb, as to whether he thought it possible for a man "to expect to be disappointed." On recognising here in the south the stern critic of European institutions, I did not venture to bring forward Vesuvius as a champion for the old hemisphere, for the mountain was on that day as lazy as Neapolitans are said to be, and as Romans really are. Not a particle of lava was in motion, and the breathings of the monster were like the tranquil puffs of a meditative smoker. So remarkable, in fact, was the quiet, that an ascent of the central mount was voted practicable, and was attempted by most of our party. The American went silently on in search of disappointment; an enthusiastic Englishman was convinced he should find "fun" up there; the inevitable English girl was there—where is she not? If we had had but a French painter to shame us all, by saving the "jeune miss" from some fearful peril, the cast would have been complete. The mount, though steep, was easy of access, being entirely coated with soft black ashes, quite as hot as was agreeable, but offering a firm foothold, so that in a few minutes we reached the summit. The scene was curious rather than terrific. A narrow ridge of soft ash encompassed a basin, or rather saucer—for it was apparently very shallow—the bottom of which was concealed from us by a mass of small pebbles glowing and shimmering with intense heat, blazing with rays brilliant as diamonds and carbuncles. The effect was truly gorgeous; such, at least, seemed to me the proper epithet. The Englishman pronounced it "Jolly." "Hallo! what's that? why, it's a shoe! Here, you chap—Bastony!" and, catching hold of his guide's stick, he tried to fish out a mysterious object which lay about ten feet distant, very close to the fire. The stick was too short, "a step would make it longer," said the Roman mother, and he was about to take that step, when the guide, with earnest gesticulations, pointed out the startling fact that the whole jewelled floor was in constant motion:—not merely an illusion caused by the hot air, but a veritable dancing of

each separate pebble. The mass of matter stood upon nothing, and we were actually on the edge of the bottomless pit! Even our energetic friend was calmed, and made no further attempt to draw from its dread abode what, if it were really a shoe, must have been either the glass slipper of Cinderella, or the other brass one of Empedocles, for no mere leather and prunella could endure that vitrifying heat.

"By Jove! Isn't it like beer?" said a voice at my side. The national simile was not ill chosen: the heaving of the mass of glowing embers, and the slight cracks which from time to time permitted the escape of gas, were strikingly like the movement observable in the scum of a fermenting vat. The feeling of insecurity, and the consciousness that we were there upon very uncertain suzerainty, induced us to retreat; and the party were at various stages of the descent, when we received a fearful warning that the patience of the mountain had been tested too long. A loud roar, followed by the screams of those who, seated below, were watching our descent, caused us all to look upward. The scene was frightful. The whole sky seemed filled with fiery projectiles of all sizes and of fantastic shapes. Even at that moment I distinctly remember thinking how like one mass was to a Hansom:—a sort of visible embodiment of Mr. Carlyle's holocaust of all the gigs in creation. It was the affair of a moment. Instinctively I threw myself down, so as in some degree to shelter the little girl who was with me, when, right, left, in front, behind, came the hammer-like blows of the falling stones—a howling Neapolitan tumbled against and over us—a number of red-hot balls bounded past us—and we were safe. I rose to my feet and looked round. The American and a comrade were plunging rapidly down the slope, closely pursued by a huge blazing rock which ricocheted past in terrible proximity to their flying forms. I hope, this time at all events, the American's disappointment was an agreeable one. The enthusiastic Englishman was binding up his hand, at once bruised and burnt by a stone, while another had lamed him, though not seriously. His first thought was to offer a "skewdy" (meaning a scudo) to any one who would ascend and bring down the young lady who was still on the edge of the pit's mouth. But his good-natured energy was needless; her guide, a steady old hand, had purposely kept his ground, wisely judging that from falling stones there was no escape, while by staying at the summit they avoided the dangers of the *ricochet*. We were soon reunited, glad to have got off so cheaply, and warned by the strong hint we had received, not to pry too closely into Nature's secrets. My story must stop here. I pretend to describe merely the preliminary rehearsals; not the grand performance which followed some months later, accompanied with an earthquake, which shook all the seaboard of Tuscany. It transcends my graphic skill.

Since that time, Vesuvius has undergone many changes, ominous of approaching dissolution. The crater has lost much of its picturesqueness,

and is now a yawning gulf, surrounded by crumbling precipices, which have accumulated in ill-compacted masses higher even than the Punta del Palo, which for many years has been the highest peak. Lava-streams flow now—when they flow at all—not from the crater, but from the base of the cone; and the mephitic fissures which lately opened at the foot of the mountain near the sea, seem to point to a time when a further encroachment to seaward on the part of the volcano shall take place, and the present Vesuvius be left an empty shell, like Somma, the Solfatara, or the mob of nameless volcanoes which crowd the gigantic base of Etna.

THE UNCOMMERCIAL TRAVELLER.

It came into my mind that I would recal in these notes a few of the many hostelries I have rested at in the course of my journeys; and, indeed, I had taken up my pen for the purpose, when I was baffled by an accidental circumstance. It was the having to leave off, to wish the owner of a certain bright face that looked in at my door, "many happy returns of the day." Thereupon a new thought came into my mind, driving its predecessor out, and I began to recal—instead of Inns—the birthdays that I have put up at, on my way to this present sheet of paper.

I can very well remember being taken out to visit some peach-faced creature in a blue sash, and shoes to correspond, whose life I supposed to consist entirely of birthdays. Upon seed-cake, sweet wine, and shining presents, that glorified young person seemed to me to be exclusively reared. At so early a stage of my travels did I assist at the anniversary of her nativity (and become enamoured of her), that I had not yet acquired the recondite knowledge that a birthday is the common property of all who are born, but supposed it to be a special gift bestowed by the favouring Heavens on that one distinguished infant. There was no other company, and we sat in a shady bower—under a table, as my better (or worse) knowledge leads me to believe—and were regaled with saccharine substances and liquids, until it was time to part. A bitter powder was administered to me next morning, and I was wretched. On the whole, a pretty accurate foreshadowing of my more mature experiences in such wise!

Then came the time when, inseparable from one's own birthday, was a certain sense of merit, a consciousness of well-earned distinction. When I regarded my birthday as a graceful achievement of my own, a monument of my perseverance, independence, and good sense, redounding greatly to my honour. This was at about the period when Olympia Squires became involved in the anniversary. Olympia was most beautiful (of course), and I loved her to that degree, that I used to be obliged to get out of my little bed in the night, expressly to exclaim to Solitude, "O, Olympia Squires!" Visions of Olympia, clothed entirely in sage-green, from which I infer a defectively educated taste on the part of her respected

parents, who were necessarily unacquainted with the South Kensington Museum, still arise before me. Truth is sacred, and the visions are crowned by a shining white beaver bonnet, impossibly suggestive of a little feminine postboy. My memory presents a birthday when Olympia and I were taken by an unfeeling relative—some cruel uncle, or the like—to a slow torture called an Orrery. The terrible instrument was set up at the local Theatre, and I had expressed a profane wish in the morning that it was a Play: for which a serious aunt had probed my conscience deep, and my pocket deeper, by reclaiming a bestowed half-crown. It was a venerable and a shabby Orrery, at least one thousand stars and twenty-five comets behind the age. Nevertheless, it was awful. When the low-spirited gentleman with the wand said "Ladies and gentlemen" (meaning particularly Olympia and me), "the lights are about to be put out, but there is not the slightest cause for alarm," it was very alarming. Then the planets and stars began. Sometimes they wouldn't come on, sometimes they wouldn't go off, sometimes they had holes in them, and mostly they didn't seem to be good likenesses. All this time the gentleman with the wand was going on in the dark (tapping away at the Heavenly bodies between whiles, like a wearisome woodpecker), about a sphere revolving on its own axis eight hundred and ninety-seven thousand millions of times—or miles—in two hundred and sixty-three thousand five hundred and twenty-four millions of something elses, until I thought if this was a birthday it were better never to have been born. Olympia, also, became much depressed, and we both slumbered and woke cross, and still the gentleman was going on in the dark—whether up in the stars, or down on the stage, it would have been hard to make out, if it had been worth trying—cyphering away about planes of orbits, to such an infamous extent that Olympia, stung to madness, actually kicked me. A pretty birthday spectacle when the lights were turned up again, and all the schools in the town (including the National, who had come in for nothing, and serve them right, for they were always throwing stones) were discovered with exhausted countenances, screwing their knuckles into their eyes, or clutching their heads of hair. A pretty birthday speech when Doctor Sleek of the City-Free bobbed up his powdered head in the stage-box, and said that before this assembly dispersed he really must beg to express his entire approval of a lecture as improving, as informing, as devoid of anything that could call a blush into the cheek of youth, as any it had ever been his lot to hear delivered. A pretty birthday altogether, when Astronomy couldn't leave poor small Olympia Squires and me alone, but must put an end to our loves! For, we never got over it; the threadbare Orrery outwore our mutual tenderness; the man with the wand was too much for the boy with the bow.

When shall I disconnect the combined smells of oranges, brown paper, and straw, from those other birthdays at school, when the coming

hamper cast its shadow before, and when a week of social harmony—shall I add of admiring and affectionate popularity—led up to that Institution? What noble sentiments were expressed to me in the days before the hamper, what vows of friendship were sworn to me, what exceedingly old knives were given me, what generous avowals of having been in the wrong emanated from else obstinate spirits once enrolled among my enemies! The birthday of the potted game and guava jelly, is still made special to me by the noble conduct of Bully Globson. Letters from home had mysteriously inquired whether I should be much surprised and disappointed if among the treasures in the coming hamper I discovered potted game, and guava jelly from the Western Indies. I had mentioned those hints in confidence to a few friends, and had promised to give away, as I now see reason to believe, a handsome covey of partridges potted, and about a hundred-weight of guava jelly. It was now that Globson, Bully no more, sought me out in the playground. He was a big fat boy, with a big fat head and a big fat fist, and at the beginning of that Half had raised such a bump on my forehead that I couldn't get my hat of state on, to go to church. He said that after an interval of cool reflection (four months) he now felt this blow to have been an error of judgment, and that he wished to apologise for the same. Not only that, but, holding down his big head between his two big hands in order that I might reach it conveniently, he requested me, as an act of justice which would appease his awakened conscience, to raise a retributive bump upon it, in the presence of witnesses. This handsome proposal I modestly declined, and he then embraced me, and we walked away conversing. We conversed respecting the West India islands, and in the pursuit of knowledge he asked me with much interest whether in the course of my reading I had met with any reliable description of the mode of manufacturing guava jelly; or whether I had ever happened to taste that conserve, which he had been given to understand was of rare excellence.

Seventeen, eighteen, nineteen, twenty; and then with the waning months came an ever augmenting sense of the dignity of twenty-one. Heaven knows I had nothing to "come into," save the bare birthday, and yet I esteemed it as a great possession. I now and then paved the way to my state of dignity, by beginning a proposition with the casual words, "say that a man of twenty-one," or by the incidental assumption of a fact that could not sanely be disputed, as, "for when a fellow comes to be a man of twenty-one." I gave a party on the occasion. She was there. It is unnecessary to name Her, more particularly; She was older than I, and had pervaded every chink and crevice of my mind for three or four years. I had held volumes of Imaginary Conversations with her mother on the subject of our union, and I had written letters more in number than Horace Walpole's, to that discreet woman, soliciting her daughter's hand in marriage. I had never had

the remotest intention of sending any of these letters; but to write them, and after a few days tear them up, had been a sublime occupation. Sometimes, I had begun "Honoured Madam. I think that a lady gifted with those powers of observation which I know you to possess, and endowed with those womanly sympathies with the young and ardent which it were more than heresy to doubt, can scarcely have failed to discover that I love your adorable daughter, deeply, devotedly." In less buoyant states of mind I had begun, "Bear with me, Dear Madam, bear with a daring wretch who is about to make a surprising confession to you, wholly unanticipated by yourself, and which he beseeches you to commit to the flames as soon as you have become aware to what a towering height his mad ambition soars." At other times—periods of profound mental depression, when She had gone out to balls where I was not—the draft took the affecting form of a paper to be left on my table after my departure to the confines of the globe. As thus: "For Mrs. Onowenever, these lines when the hand that traces them shall be far away. I could not bear the daily torture of hopelessly loving the dear one whom I will not name. Broiling on the Coast of Africa, or congealing on the shores of Greenland, I am far far better there than here." (In this sentiment my cooler judgment perceives that the family of the beloved object would have most completely concurred.) "If I ever emerge from obscurity, and my name is ever heralded by Fame, it will be for her dear sake. If I ever amass Gold, it will be to pour it at her feet. Should I on the other hand become the prey of Ravens—" I doubt if I ever quite made up my mind what was to be done in that affecting case; I tried, "then it is better so;" but not feeling convinced that it would be better so, I vacillated between leaving all else blank, which looked expressive and bleak, or winding up with "Farewell!"

This fictitious correspondence of mine is to blame for the foregoing digression. I was about to pursue the statement that on my twenty-first birthday I gave a party, and She was there. It was a beautiful party. There was not a single animate or inanimate object connected with it (except the company and myself) that I had ever seen before. Everything was hired, and the mercenaries in attendance were profound strangers to me. Behind a door, in the crumby part of the night when wine-glasses were to be found in unexpected spots, I spoke to Her—spoke out to Her. What passed, I cannot as a man of honour reveal. She was all angelical gentleness, but a word was mentioned—a short and dreadful word of three letters, beginning with a B—which, as I remarked at the moment, "scorched my brain." She went away soon afterwards, and when the hollow throng (though to be sure it was no fault of theirs) dispersed, I issued forth, with a dissipated scorn, and, as I mentioned expressly to him, "sought oblivion." It was found, with a dreadful headache in it, but it didn't last; for, in the shaming light of

next day's noon, I raised my heavy head in bed, looking back to the birthdays behind me, and tracking the circle by which I had got round, after all, to the bitter powder and the wretchedness again.

This reactionary powder (taken so largely by the human race that I am inclined to regard it as the Universal Medicine once sought for in Laboratories) is capable of being made up in another form for birthday use. Anybody's long-lost brother will do ill to turn up on a birthday. If I had a long-lost brother I should know beforehand that he would prove a tremendous fraternal failure if he appointed to rush into my arms on my birthday. The first Magic Lantern I ever saw, was secretly and elaborately planned to be the great effect of a very juvenile birthday; but it wouldn't act, and its images were dim. My experience of adult birthday Magic Lanterns may possibly have been unfortunate, but has certainly been similar. I have an illustrative birthday in my eye: a birthday of my friend Flipfield, whose birthdays had long been remarkable as social successes. There had been nothing set or formal about them; Flipfield having been accustomed merely to say, two or three days before, "Don't forget to come and dine, old boy, according to custom;"—I don't know what he said to the ladies he invited, but I may safely assume it *not* to have been "old girl." Those were delightful gatherings, and were enjoyed by all participants. In an evil hour, a long-lost brother of Flipfield's came to light in foreign parts. Where he had been hidden, or what he had been doing, I don't know, for Flipfield vaguely informed me that he had turned up "on the banks of the Ganges"—speaking of him as if he had been washed ashore. The Long-lost was coming home, and Flipfield made an unfortunate calculation, based on the well-known regularity of the P. and O. Steamers, that matters might be so contrived as that the Long-lost should appear in the nick of time on his (Flipfield's) birthday. Delicacy commanded that I should repress the gloomy anticipations with which my soul became fraught when I heard of this plan. The fatal day arrived, and we assembled in force. Mrs. Flipfield senior formed an interesting feature in the group, with a blue-veined miniature of the late Mr. Flipfield round her neck, in an oval, resembling a tart from the pastrycook's: his hair powdered, and the bright buttons on his coat, evidently very like. She was accompanied by Miss Flipfield, the eldest of her numerous family, who held her pocket-handkerchief to her bosom in a majestic manner, and spoke to all of us (none of us had ever seen her before), in pious and condoning tones, of all the quarrels that had taken place in the family, from her infancy—which must have been a long time ago—down to that hour. The Long-lost did not appear. Dinner, half an hour later than usual, was announced, and still no Long-lost. We sat down to table. The knife and fork of the Long-lost made a vacuum in Nature, and when the champagne came round for the first

time, Flipfield gave him up for the day, and had them removed. It was then that the Long-lost gained the height of his popularity with the company; for my own part, I felt convinced that I loved him dearly. Flipfield's dinners are perfect, and he is the easiest and best of entertainers. Dinner went on brilliantly, and the more the Long-lost didn't come, the more comfortable we grew, and the more highly we thought of him. Flipfield's own man (who has a regard for me) was in the act of struggling with an ignorant stipendiary, to wrest from him the wooden leg of a Guinea-fowl which he was pressing on my acceptance, and to substitute a slice of the breast, when a ringing at the door-bell suspended the strife. I looked round me, and perceived the sudden pallor which I knew my own visage revealed, reflected in the faces of the company. Flipfield hurriedly excused himself, went out, was absent for about a minute or two, and then re-entered with the Long-lost.

I beg to say distinctly that if the stranger had brought Mont Blanc with him, or had come attended by a retinue of eternal snows, he could not have chilled the circle to the marrow in a more efficient manner. Embodied Failure sat enthroned upon the Long-lost's brow, and pervaded him to his Long-lost boots. In vain Mrs. Flipfield senior, opening her arms, exclaimed, "My Tom!" and pressed his nose against the counterfeit presentment of his other parent. In vain Miss Flipfield, in the first transports of this re-union, showed him a dint upon her maidenly cheek, and asked him if he remembered when he did that with the bellows? We, the bystanders, were overcome, but overcome by the palpable, undisguisable, utter, and total break-down of the Long-lost. Nothing he could have done would have set him right with us but his instant return to the Ganges. In the very same moments it became established that the feeling was reciprocal, and that the Long-lost detested us. When a friend of the family (not myself, upon my honour), wishing to set things going again, asked him, while he partook of soup—asked him with an amiability of intention beyond all praise, but with a weakness of execution open to defeat—what kind of river he considered the Ganges, the Long-lost, scowling at the friend of the family over his spoon, as one of an abhorrent race, replied, "Why a river of water, I suppose," and spooned his soup into himself with a malignancy of hand and eye that blighted the amiable questioner. Not an opinion could be elicited from the Long-lost, in unison with the sentiments of any individual present. He contradicted Flipfield dead, before he had eaten his salmon. He had no idea—or affected to have no idea—that it was his brother's birthday, and on the communication of that interesting fact to him, merely wanted to make him out four years older than he was. He was an antipathetical being, with a peculiar power and gift of treading on everybody's tenderest place. They talk in America of a man's "Platform." I should describe the Platform of the Long-lost as a Platform composed of other people's corns,

on which he had stumped his way, with all his might and main, to his present position. It is needless to add that Flipfield's great birthday went by the board, and that he was a wreck when I pretended at parting to wish him many happy returns of it.

There is another class of birthdays at which I have so frequently assisted, that I may assume such birthdays to be pretty well known to the human race. My friend Mayday's birthday is an example. The guests have no knowledge of one another except on that one day in the year, and are annually terrified for a week by the prospect of meeting one another again. There is a fiction among us that we have uncommon reasons for being particularly lively and spirited on the occasion, whereas deep despondency is no phrase for the expression of our feelings. But the wonderful feature of the case is, that we are in tacit accordance to avoid the subject—to keep it as far off as possible, as long as possible—and to talk about anything else, rather than the joyful event. I may even go so far as to assert that there is a dumb compact among us that we will pretend that it is *not* Mayday's birthday. A mysterious and gloomy Being, who is said to have gone to school with Mayday, and who is so lank and lean that he seriously impugns the Dietary of the establishment at which they were jointly educated, always leads us, as I may say, to the block, by laying his grisly hand on a decanter and begging us to fill our glasses. The devices and pretences that I have seen put in practice to defer the fatal moment, and to interpose between this man and his purpose, are innumerable. I have known desperate guests, when they saw the grisly hand approaching the decanter, wildly to begin, without any antecedent whatsoever, "That reminds me——" and to plunge into long stories. When at last the hand and the decanter come together, a shudder, a palpable perceptible shudder, goes round the table. We receive the reminder that it is Mayday's birthday, as if it were the anniversary of some profound disgrace he had undergone, and we sought to comfort him. And when we have drunk Mayday's health, and wished him many happy returns, we are seized for some moments with a ghastly bliteness, an unnatural levity, as if we were in the first flushed reaction of having undergone a surgical operation.

Birthdays of this species have a public as well as a private phase. My "boyhood's home," Dullborough, presents a case in point. An Immortal Somebody was wanted in Dullborough, to dimple for a day the stagnant face of the waters; he was rather wanted by Dullborough generally, and much wanted by the principal hotel-keeper. The County history was looked up for a locally Immortal Somebody, but the registered Dullborough worthies were all Nobodies. In this state of things, it is hardly necessary to record that Dullborough did what every man does when he wants to write a book or deliver a lecture, and is provided with all the materials except a subject. It fell back upon Shakespeare.

No sooner was it resolved to celebrate Shakespeare's birthday in Dullborough, than the popularity of the immortal bard became surprising. You might have supposed the first edition of his works to have been published last week, and enthusiastic Dullborough to have got half through them. (I doubt, by the way, whether it had ever done half that, but this is a private opinion.) A young gentleman with a sonnet, the retention of which for two years had enfeebled his mind and undermined his knees, got the sonnet into the Dullborough Warden, and gained flesh. Portraits of Shakespeare broke out in the book-shop windows, and our principal artist painted a large original portrait in oils for the decoration of the dining-room. It was not in the least like any of the other portraits, and was exceedingly admired, the head being much swollen. At the Institution, the Debating Society discussed the new question, Was there sufficient ground for supposing that the Immortal Shakespeare ever stole deer? This was indignantly decided by an overwhelming majority in the negative; indeed, there was but one vote on the Poaching side, and that was the vote of the orator who had undertaken to advocate it, and who became quite an obnoxious character—particularly to the Dullborough "roughs," who were about as well informed on the matter as most other people. Distinguished speakers were invited down, and very nearly came (but not quite). Subscriptions were opened, and committees sat, and it would have been far from a popular measure in the height of the excitement, to have told Dullborough that it wasn't Stratford-upon-Avon. Yet, after all these preparations, when the great festivity took place, and the portrait, elevated aloft, surveyed the company as if it were in danger of springing a mine of intellect and blowing itself up, it did undoubtedly happen, according to the inscrutable mysteries of things, that nobody could be induced, not to say to touch upon Shakespeare, but to come within a mile of him, until the crack speaker of Dullborough rose to propose the immortal memory. Which he did with the perplexing and astonishing result that before he had repeated the great name half a dozen times, or had been upon his legs as many minutes, he was assailed with a general shout of "Question!"

THE SOUP QUESTION.

WE eat and drink at once when we take soup; that is to say, we supply at once the daily waste of solids and of fluids. Eating and drinking are two names for the one act of feeding. Soup is above the arbitrary distinction between food that is thin and food that is thick. We drink water, we eat porridge. But soup we eat, and soup we drink, soup we take, and soup we have. It is the greater that contains the less. Soup contains all sorts of meat, soup contains also vegetables of every kind, soup contains pepper and salt and all condiments, soup contains water, and soup often contains wine. Soup is meat and a

great deal more, vegetables and a great deal more, the refreshing draught and a great deal more; at once the whet and satisfaction to the appetite. It is the elixir of life, rich creative essence of man's flesh and blood. Always upon condition, that it be good soup.

Good catholic victual should contain not merely one or two of the constituents of solid humanity, but as nearly as possible all of them, many as they are, and soup can do that. Let the chemist whisper to the cook, and every element of man's substantial life can be provided in this palatable brew, that has the very name of deglutition given to it, as a thing not to be conceived apart from the enjoyment of it, as that which we sup or swallow. In Wiclif's Bible, death is said to be not swallowed, but souped or supen up in victory.

But some of the old Germans, like Geheimrath Hofmann of Halle, saw with regret the soup-eating of their countrymen. Soup, they said—warm soup—is expanded with hot air, it distends the stomach, it dilutes the gastric juice. If you must eat soup, take it for supper, but don't fill your stomach with it, and then drop into it salt meat, tough relishes, sauerkraut, and over-baked solids. Soup has possession of the stomach, and soup cannot digest them. Nonsense, said the German householder, who took his couple of plates of soup as preface to a savoury substantial dinner. Nonsense, look at the French, how they make everything into soups, and flourish thereupon. Ah, yes, replied the warning doctors; look at the French, indeed; but they almost live on their soups, and have accordingly soup-eating stomachs. They don't want such masses of hard stimulating food as we hungry Germans do, and French gastric juice isn't equal to the digestion of such victuals. Once soup-eaters, always soup-eaters. The elderly Frenchman who should put a pound of German sausage into his stomach, would have to go down with it into his grave, unless it were extricated by an operation. Avoid soup, ye full blooded, said, also, the German Geheimrath, for it makes rich blood very fast, and you'll soon have excess of it. German gastric juice is very good and strong, and it wants something tough and hard at mid-day, to occupy it well, and keep it out of mischief. That is the true theory of sauerkraut and sausage. Without some such inward bolstering, every man would be devoured by his own stomach in course of time. The German people would disappear, and there would remain covering the ground, like leeches in a tropical forest, millions of hungry stomachs gaping for their food. The Geheimrath Hofmann recommended tough hard meat for dinner, and a lump of butter sent after it to grease its passage out of the stomach, when the strong German gastric juice had settled with it. Something to that effect is the old theory of butter after dinner, but the theory of after-dinner cheese is wholly different. The practice of cheese after dinner began in the opinion that cheese stopped at the entrance of the stomach. The final piece of cheese was the stopper put

into the retort while its contents were undergoing an alchemical digestion and change.

But what soups can they make who add borage and chickory to chicken broth, make a beer soup of powdered bread and beer with cumin-seeds, a couple of eggs, and a bit of butter, or of beer and milk equally mixed with yolk of egg and butter? Who make a soup stock of meal fried brown in butter, who make soup with help of butter and egg, with water, milk, or butter-milk, out of green grapes, grated cheese, or parsley-roots? Two or three eggs, a bit of butter, and an onion, with plenty of hot water, will make a family soup over which many a German peasant has said grace with true thanksgiving before cutting his bread into it, and accounting himself well fed. The ingenious Count Rumford—so true to principles that he wore in winter a white hat and white coat to economise the heat of his person by saving the difference of radiation between white and black—tells us, in his essay on Food, that after an experience of more than five years in feeding the poor at Munich, during which time every experiment was made that could be devised, in choice of articles and in their combinations and proportions, it was found that the cheapest, most savoury, and most nourishing food that could be procured, was a soup composed of pearl barley, peas, potatoes, cuttings of fine wheaten bread, vinegar, salt, and water in certain proportions. The pearl barley was first boiled in the water, then the peas were added, and the boiling continued over a gentle fire for about two hours; then the peeled potatoes were added, and the boiling went on for another hour, with frequent stirring to reduce the mixture to one uniform pulp; vinegar and salt were added last, and the mixture was then, immediately before being served, poured on the cuttings of bread. The bread used at Munich was the stale unsaleable bread given by the bakers. The staler, the better, it was found. For, staleness makes some mastication necessary, and mastication seems very powerfully to assist in the promoting of digestion. It likewise prolongs the enjoyment of eating—a matter in itself of great importance. The allowance of such soup to each person, bread included, was about a pound and a quarter, and this proved to be a sufficient meal for a healthy person, though it contained only six ounces of solid matter. Even from this the potatoes might be omitted, leaving less than five ounces of solid, but the barley was, of all its ingredients, the most essential. “No substitute,” says the philosopher, “that I could ever find for it among all the varieties of corn and pulse of the growth of Europe, ever produced half the effect; that is to say, half the nourishment at the same expense. Barley may, therefore, be considered as the rice of Great Britain. It requires, it is true, a great deal of boiling; but when it is properly managed, it thickens a vast quantity of water, and, as I suppose, prepares it for decomposition. It also gives the soup into which it enters as an ingredient a degree of richness which nothing else

can give. It has little or no taste in itself but when mixed with other ingredients which are savoury, it renders them peculiarly grateful to the palate. It is a maxim as ancient, I believe, as the time of Hippocrates, that ‘whatever pleases the palate nourishes;’ and I have often had reason to think it perfectly just. Could it be clearly ascertained and demonstrated, it would tend to place cookery in a much more respectable situation among the arts than it now holds.” Agriculturists, it is urged, have found how, in the feeding even of cattle, nourishing power is increased by cookery. “There is some undiscovered secret of nature in all this,” Count Rumford said, “and it seems to me to be more than probable that the number of inhabitants who may be supported in any country upon its internal produce, depends almost as much upon the state of the art of cookery as upon that of agriculture.” Now the cook approaches nearest to the poet, the true maker or original producer, when his soul is expressed in soup. He is a Shakespeare of the kitchen who, mastering the subtleties of animal nutrition, and penetrating as by inspiration to the deepest mysteries of food, can produce new forms in infinite diversity of palatable soup that feeds flesh, bone, and nerve.

All food should be very palatable, and nothing is easier than, by flavouring a tasteless basis, to make soup very grateful to the taste. Nothing, also, can be cheaper. By reducing indefinitely the size of the flavouring particles, they are made to act upon the palate over a wide surface, and if we can only prevent a soup thus flavoured, say with a morsel of meat, from being swallowed too soon, as by mixing it with some hard tasteless substance, such as morsels of bread toasted dry, which compel mastication, the enjoyment of eating may be very much prolonged. Enjoyments of life are few to the poor; eating was meant to be a common pleasure, and is unwholesome when it is unpleasant. Even the glutton is the better for it, if he can be shown how to gormandise for two hours upon two ounces of meat. Count Rumford was led to consider this subject, by observing, when he was with their army, how the gormandising Bavarian soldiers were stout, strong, and healthy upon twopence a day, or but half their pay, spent for the food of each. For this money they not only thrive on savoury food, but procured themselves, to a surprising degree, the prolonged pleasure of eating.

The first soup contrived by Count Rumford for the Munich House of Industry, of pearl barley and peas without potatoes, cost a trifle more than a third of a penny for each of one thousand two hundred persons fed, including payment of cooks and all expenses of the kitchen. This cost was reduced by the introduction of potatoes. But against potatoes prejudice was so strong, that they were at first smuggled into a secret chamber and there boiled into a pulp which contained no evidence of their identity, before they were carried into the public kitchen and mixed with the soup. The wonderful improvement of the soup was applauded so loudly, that at last the secret was disclosed, and the potatoes got the credit due to them.

Made then with one proportion of pearl barley and one of peas to four of potatoes, bread, salt, vinegar, and water as before, the cost of each portion of soup was reduced to a farthing; or, strictly, the cost was forty-one farthings for forty dinners. The same soup in London would now cost, perhaps, a halfpenny a pint. A morsel of strong well-flavoured cheese grated and sprinkled over this soup adds to its relish. If any meat, or salt fish, or other such flavouring matter be added, it should be cut, after boiling, into pieces as small even as barleycorns, for the diffusion of its flavour, and all boiling should be very gentle, and all coppers would be the better for having double bottoms. In the Munich kitchen it was found that six hundred pints of soup could be made with only forty-four pounds of pine wood, for the philosopher attended not more carefully to the economy of food than to the economy of fuel, of which commonly one-half is wasted that is burnt in every kitchen. For the cheapest soup he can suggest, Count Rumford's receipt is, "Take of water eight gallons, and, mixing it with five pounds of barley-meal, boil it to the consistency of a thick jelly. Season it with salt, pepper, vinegar, sweet herbs, and four red herrings pounded in a mortar. Instead of bread, add five pounds of Indian corn made into samp, stir together with a ladle, and serve up in portions of twenty ounces." Samp is Indian corn deprived of its husks by ten or twelve hours' soaking in water and wood-ashes, the kernels being afterwards simmered for a couple of days, until they swell to a great size and burst. The proper cost of a portion of this soup and samp would be something less than the third of a penny, if the Indian corn were obtained at its fair price of five farthings a pound.

There was lately left with us "for conscientious consideration," together with a newspaper cutting in evidence that death by starvation is no unknown horror amidst the wealth of London, a small packet of greasy powder, labelled "Count Rumford's Soup improved." The benevolent idea was, that in all impoverished districts there should be sold such packets professing to give the substance of a pint of good soup for a halfpenny. We conscientiously followed the directions, which were simply to boil for three minutes in a pint of water over a moderate fire. The result was a thin brown liquid, by no means palatable. We boiled on for twenty minutes, stirring most assiduously, for the powder had a suspicious resemblance to a halfpenny-worth of groats seasoned with a dash of meat grease, and a sprinkling of caraway-seeds. But the soup, though improved by more boiling, did not thicken, and although one might conceive it welcome to one perishing from hunger, starvation must, we thought, have set in very decidedly before any one could be persuaded to gulp down a pint of it. The dry groats of which gruel is made, or Indian meal, might, of course, cunningly mixed with pea-powder, burnt onion, dried celery, a pinch of dried and pounded herring, or other cheap flavourings, be sold in halfpenny packets,

which would make a pint of thin but wholesome brown soup-flavoured gruel, and the honest manufacture and sale of such soup-powders would, as our correspondent rightly feels, be of unquestionable advantage to the very poor.

But it is hard to say who should despair of food who can compass the three requisites for soup-making—fire, water, and an iron pot. In this noble form of soup, cookery seems actually to create food. The waste bread and scrapings of the rolling-pin and pasteboard, the refuse cabbage-leaves and stalks, and turnip-parings, pea-shells, and discarded outside bits of celery, the rind of bacon, fish-bones, and the meat-bones of London, would, rightly economised in every house, feed a small army of poor. There should be no kitchen without its pot-au-feu constantly simmering, into which is cast, not without strict regard to cleanliness, every rejected scrap that contains nourishment, and out of which can be drawn daily liquor of life, which a slight touch of the cook's skill makes into palatable soup either for the household itself, or for the poorer households that are brought into a right social relation with its inmates. In the Crimea, before English soldiers knew how to turn their food to account, every knot of French privates had its pot-au-feu, or black pot, into which the men clubbed to throw their inferior rations with what few vegetables they could get, and even sorrel and nettles gathered on the spot: thus getting quarts of good soup and savoury stews out of the most unpromising materials. When poor Soyer, who taught some of this lesson to us in the Crimea, and well understood, with all his pleasant vanities, the highest social function of a cook, went to instruct the Irish, he found very unwilling pupils. They said, "It's making pigs of us he is, to tell us to stew offal and scrapings." And yet, how nourishing and palatable is the food thus scorned.

Look at the sturdy Norman peasant who is half built out of cabbage soup. You see in his poor cottage the clean brass soup-pan filled with fresh water from the spring, and kept under a close wicker cover that looks like a flat beehive. A string from the cover passes through a pulley on the ceiling, and the other end hangs ready to the hand of the housewife when she shreds her cabbage-leaves and other vegetables. By a pull at the string she lifts the cover as she tosses the cut leaves into her pan, then dropping it immediately, to keep the flies and dust out of the food. The bright soup-pan remains under the basket until it is placed over the fire, and when the soup is made, it is replaced under the same cover until the soup is served on the table. In no duke's kitchen is there a nicer sense of cleanliness. Now, many a strong fellow eats nothing but this soup and bread. After the cabbage has been boiled some time, there are added a few bits of bread and onion fried in butter or fat. Or, the good Norman housewife begins with the grease and onions, adds the cabbage and water, boils for a long time, and throws in the bread just before serving.

By our sea-shore, we might imitate the Norman method of reducing little white fish in the stew-pot with a few herbs into a sort of water souchi called bouillabaise, which is capital eating, cools into a clear and very firm jelly, and, if kept hot, with water added, remains good for a long time. Of all this, and of much else in French cottage cookery, delightful accounts will be found in a couple of recent volumes entitled *Life in Normandy*, showing how a genial and accomplished Highland laird, now dead, made himself at home by the Bay of Cancale, and cleverly observed and recorded what he saw with an especial eye to the better feeding of the poor in his own land, for "it was suggested that ingenious foreign devices and engines for ensnaring, growing, and gathering food, and for making it eatable, might be so described as to benefit the poor at home, whose single dish of potatoes might easily be varied at a small cost." It was argued that a good cheap dinner at home would tempt a poor man from bad dear drink abroad, and that a poor Scotchman's wife might be taught to do that which poor wives do elsewhere. Enlivening the execution of his main purpose with a pleasant setting of the incidents of life in Normandy, the Scotch laird made a broth of a book, wholesome victual and good entertainment, as all wholesome victual ought to be.

A curious passage in this gentleman's experience, backed by what he was told in Normandy, raises the question of snail-soup. We do eat sea-snails, periwinkles, but we leave the land-snails and slugs to consume our fruits, hearing only with a shiver that in other lands they have been found eatable. Now it is said that soup made of the common black slug is one of the lightest and most nutritious kinds of food that can be given to an invalid.

In a gravel-pit near Sydenham an Irishman and his family once squatted. They built a hovel near the side of the pit, and the man earned large wages as a gravel-digger, till he was one day killed by the fall of a bank he was cutting. The widow and children continued to live in the hut, and it was remarked that although they had no visible means of subsistence, she and her children were more fat and rosy than any labourer's family in the parish. Hen-roosts having been robbed, and sheep stolen, suspicion of course fell on the widow, a search-warrant was obtained, and the constables, finding a good-sized cask, containing what they took to be the stolen meat cut into little morsels, wheeled the cask off on a hand-barrow, and carried the woman off with it to the magistrate, her children following her, weeping bitterly. "Oh, darling," she said to a friendly youth who passed, "spake for me and the children; it's not mutton, though it's their meat and mine, and has kept death from our door this bitter winter!" What it was she would not tell before "them blackguards" the constables. But when the magistrate had inspected the barrel, and also declaring its contents not to be mutton, asked her to tell what it did contain, in order to clear herself of all suspicion, she replied, "Send them fellows away,

and I will tell your honour." To the magistrate's private ear she accordingly confided that she and her children were living on salted slugs. She had seen them given to a young man in Ireland sick of consumption, and he throve and got quite fat upon them. When destitute, she thought that what had been so good for him might feed her children. First, she tried them fresh, and finding that the children throve, she took to salting them. Her way was to drop them into boiling water, and afterwards lay them with salt in a cask. She and her children had prepared two casks full, which had fed them all the winter, and the cask now seized contained the remainder of her store. The poor woman's secret was kept from the constables, but told to a few neighbouring gentry, who subscribed that the widow might in future not want bread.

A Norman landlady was asked whether the people in her part of the world ever ate snails? "Yes," she said, "they are sometimes used here, but only as a medicine. In La Vendée, and some other parts of France, they are eaten (the Lord defend me!) from taste. When my husband was on service in the army, he was a sous-officier, and was caterer for their mess. Among the sous-officiers there was a sergeant who belonged to La Vendée, with whom he had a quarrel, and they fought with sabres. Their dispute was about snails, for this man would always bring a capful of these creatures, which he cooked and ate at the table with my husband, though it made him sick to see them. Well, my husband desired him to give up such nasty tastes, which interference he took much amiss, so they fought, and gave each other some very pretty blows with the edge, and then they were good friends again, only the Vendéen agreed to eat his snails at another mess. After this, you would hardly believe that it was my husband whom I first saw cooking snails; yet so it was. A girl who was in our house as servant, had a very bad illness of the chest; she was constantly spitting blood, and all the doctors said she must die. We were very sorry, for she was a good girl and pleased us, when my husband remembered that he had heard of such wonders being done for illnesses of the chest by soup au Limosin; so he set to work to prepare some for the poor girl as he had seen it made by the sergeant in La Vendée. He gave it to her, and she had faith, for she got better. She then learnt to cook it for herself, and took it twice a day, and she got quite well and fat, and now she is married and has two fine boys."

If any of our readers wish to try slug or snail soup, here is the Vendéen recipe for making it: In summer take of slugs—in winter, when no slugs are to be found, take of snails—a sufficiency. Snails with stripes on their shells have a bad taste, and are to be rejected; use only those having their shells all of one colour. Put them for a minute in boiling water, and they will come out of their shells quite easily. A little bit of hard matter is taken from the head, and afterwards they are stewed for a long time in milk. This is winter soup. But in summer

you use slugs, which have to be freed of their slime. They are first plunged, therefore, in boiling water, to kill them; then they are washed in cold water, when a great deal of slime comes off, after which they are stewed in water for a long time, and milk and seasoning added; or they are stewed in milk in the same way as the snails.

The Chinese, who waste no victuals, of course have recognised the worth of slugs.

In meat soups, the delight of the palate is supplied by osmazome, which forms the brown upon roast meat, and is that sapid portion which is soluble in cold water. The merit of a good soup is its osmazome. It is the groundwork of all great soups, and its removal by cooks, who withdrew the first bouillon or soup, led Abbé Chevrier to invent caldrons with lock and key.

The object of soup-making from meat is to dissolve as much as possible in the water of the soup, the sapid and nourishing contents of the solid meat. For this purpose the meat should be finely divided, minced, or even pounded. Except in the hottest weather, it is of advantage to let the meat soak in cold water for from four to eight hours, then warm slowly, and simmer for a long time without letting the heat rise to bubbling point. Another cardinal point in soup-making of more than one ingredient is the necessity of remembering that each article takes its own time for fit cookery, and that to put them all at once into a pot and boil away is barbarism. The Spaniard, with his puchero cookery, boils each variety of meat or other raw material for its own time in its own pipkin, and then contrives that they shall all be ready for mixture at the instant when the cookery of each is in its perfection. As Count Rumford began with his barley, and, at a certain stage in the cooking of that, added his potatoes, leaving to the last his bread—so the thoughtful soup-maker in the poorest or the richest household must time seasonably each addition to the brew. With discretion in this matter, time, patience, and not too much fire, it needs only pepper, salt, and a few herbs or scraps of vegetable, to get good soup out of anything in which the elements of food exist.

BOYS RUN WILD.

THE nearest approach to a wild boy, says Mr. Burnet Tyler—in the amusing new journal, the *Anthropological Review*, which is the source of all this information—was to be found in Germany, after the desolating spirit of Napoleon had breathed over the land. The countries ravaged by his armies fell into utter misery. Children without parents and friends, destitute and homeless, were quite common in Germany. Several of them were brought to the shelter of Count von der Reche's asylum at Overdyke, and two of these had fallen more nearly into the condition of wild animals, were more nearly beast children, than any others of whom there is unquestionable record. One

of these children was brought in ragged and bleeding. Unable to tell his name, he was called Clemens, since he was received upon St. Clement's day. With a power of speech almost as limited as Caspar Hauser's when first found, nearly all that he could make intelligible was, that he came "from the other side of the water." He had also a large vocabulary of frightful curses. He had been set to keep a peasant's swine, had lived with them, and been shut up with them at night. Scantily fed, he used to suck the milch sow, and eat with the little pigs. When first received at Overdyke he had to be kept out of the salad-beds as if he were himself a pig, for in the garden he would go down on all fours, and grub among the growing vegetables with his projecting teeth. He retained also a brotherly regard for the whole race of pigs, and understood them so well that they would let him ride upon their backs. His pleasantest memories were incidents of his life among them as a child. This Clemens, who had a narrow head and a low forehead, was of imperfect intellect, though not an idiot. Given to laughter, and open to kindness, he was liable also to uncontrollable fits of passion. Once, when he had tried to murder his benefactor with a woodcutter's axe that he held in his hand, he was carried away laughing to confinement.

The other wild boy at the Overdyke asylum, had learnt to live as the beasts of the forest, only prowling about villages of nights to steal food. He climbed trees for eggs and birds, that he ate raw, and had extraordinary knowledge of birds and their habits. To each that he knew, he gave a name of its own, and it is said that the birds seemed to recognise the names he whistled after them.

Sir William Sleeman, in his narrative of a journey through the kingdom of Oude, gives a very curious account of a boy, said to have been taken when running on all fours with a she-wolf and her three cubs. They were all seen coming down to the river to drink when the boy was caught. The wolves, left to themselves, are very numerous among the ravines which run down to the banks of the Goomtee river. They are wolf preserves, for the Hindoo belief, that a drop of wolf's blood spilt within the bounds of any village dooms the village to destruction, acts more powerfully for wolf protection than a game law. The vagrants, with whom no conscience pleads for the protection of the wolves, are said to divide spoil with them after this fashion: Very young children go about with costly ornaments upon them. Wolves carry off and eat the children, but reject the ornaments among their refuse, and for the chance of finding these, the vagrants patronise the wolves, and are on visiting terms with them.

Getting more apocryphal as it proceeds, the native account of the habits of wolves goes on to say that a he-wolf always eats the children he gets, and so does a she-wolf, except when she is suckling; in that case she rears with her own young the stolen baby. Now as to the particular boy whom Sir William Sleeman found at

Sultanpoor, and who was said to have been caught when trotting down on all fours with the wolf foster-mother, and his three cubs of foster-brothers, to the river to drink. When first caught, he had to be tied, that he might not run off into holes and dens. He ran away from adults, but ran at children, snarling like a dog, to bite them. He ate his meat raw, dog fashion, using his hands as forepaws; would let a dog share with him, but snarled if a man came near. The boy was sent to Captain Nicholetts, commanding the First Oude Local Infantry, with whom he became tamer; but he growled when teased, ran to his food on all fours, and ate whatever was thrown to him, preferring raw meat and bones to gnaw. He could eat half a lamb at a time, drink a pitcher of buttermilk without drawing breath, and would pick up and eat earth and small stones. He delighted in food, but he detested clothing. In cold weather they gave him a quilt, but he tore it up and ate it bit by bit with his bread. This boy was of repulsive aspect; he shunned human society, preferring that of dogs, but when his favourite, a pariah dog that came and helped him off with his dinners, was shot because he was depriving the young founding of his food, the boy showed no concern whatever at his loss. This "beast child," who was supposed to have been taken from the she-wolf at nine or ten years old, lived three years among men, signifying wants by a few signs—when hungry he pointed to his mouth—and was never known to speak till a few minutes before his death, when he put his hand to his head and said it ached, asked for some water, drank it, and then died. These few words spoken before death might have been the return of an old childish impression.

Another of Sir William's stories is of a boy said to have been carried off by a wolf when three years old, and while his parents were working in the fields at Chupra. Six years afterwards he was caught when going down to the river with three wolf cubs, and recognised by a birth-mark, as well as by the scar of a scald and the marks of the wolf's teeth in his loins; for she had been seen to take him and carry him off by his loins. This boy was alive at the time of Sir W. Sleeman's visit. He could not articulate words, his knees and elbows were hardened with going on all fours. He followed his mother about for what he could get, but at night, he would make off to the jungle. He also liked his meat uncooked. The village boys threw frogs to him, and he ate them. When a bullock died and its skin was taken off, he would go and eat it like a village dog.

The unproved fact in the case of both these idiot boys, who had been outcasts in the woods, is the wolf-nursing. The notion of wolf-rearing is commonly attached in India to the outcast idiot children, who are sometimes found living, like the beasts, upon what garbage they can find.

In Poland the same belief once gave to such unhappy children credit or discredit for having been reared among the bears. Of one such boy, caught two centuries ago in a bear hunt, it is

said that he appeared to be eight or nine years old, went on all fours, and ate greedily such things as bears love—raw flesh, apples, and honey. He was taken to the king at Warsaw and baptised Joseph. With difficulty he was taught to walk upright. He never could learn Polish, but expressed his views of life with an ursine growl. The king gave him to a vice-chamberlain, who employed him to carry wood for his kitchen. He never lost his wildness, and sometimes escaped into the woods, where the bears never molested him.

Such stories are not more credible, though more honestly set forth, than that of the Irish boy exhibited at Amsterdam, as having been reared by a sheep, so that he ran upon all fours, cropped grass, and bleated.

MARVELLOUS LIGHTNING.

THUNDER-CLOUDS have been described as fermenting; having really an appearance recalling that of fermentation. A learned observer has likened these clouds to a cheese full of mites, agitated in every part, and yet never changing place. Although everybody knows thunder-clouds when they see them, very few persons have watched their formation. The thunder-cloud is composed of different kinds of clouds. At some of the points of the horizon clouds arise like heaped up masses of cotton or dome-shaped mountains covered with snow; and these clouds are seen swelling and stretching until they unite, and make one vast cloud: then another very thick or black cloud appears as if resting on the earth, which is seen spreading until it reaches the other cloud, and sends its darkness through it or over it; the whole mass may be observed shooting forth branches, and overspreading the sky, and blending with the little scattered cloudlets like tufts of wool floating hurriedly towards it, until the louring whole blackens with a purple or inky black the heavens from the welkin to the horizon, and the commotions or fermentations, or rather the million-fold rubbings and collisions going on within it, announce the gathering together of the elements of thunder and lightning. The storm is brewing. Franklin long ago remarked that a single cloud could not become a thunder-cloud. Thunder-storms are battles of the clouds. Saussure said he had never seen a thunder-storm except from a conflict of clouds. But storms may come from the battles of clouds lying in layers above each other, and coming into collision not horizontally, but perpendicularly, from the clouds of the plains and valleys going up to fight the clouds hanging upon the mountains—their collisions announcing themselves by gusts of wind, by lightning and thunder, hail and rain.

Yet, Arago has exhumed records to the contrary purport. If these recorded observations have been made by careful and competent witnesses, lightning and thunder have, contrary to what all the theories would lead us to expect, issued from solitary and isolated clouds. On the 12th of September, 1747, a small and perfectly round cloud, about a foot and a half

across, darted forth suddenly a thunderbolt which killed a woman of the name of Bordenave by burning her bosom without injuring her clothes. According to the statement of Duhamel du Monceau, on the 30th of July, 1764, there issued from a small solitary cloud, in bright sunshine, a thunderbolt which struck an elm-tree very near the château Denainvilliers, tearing off a strip of bark. Bergman saw the lightning dart to a church steeple from a very small cloud in a very clear sky. Captain Hossard saw a small cap of cloud forming around a mountain-top called the Colombier de Gex, five thousand two hundred and fifty feet high, which in a few seconds afterwards sent forth a clap of thunder. These singular cases require to be explained by further and more complete observations.

The smoke of volcanoes is often corruscated by serpentine fires or long furrows of flames, resembling zigzag flashes of lightning. These flames are sometimes accompanied with thunder-claps. Science may learn something, I submit, by directing attention to these thunder-storms in volcanic clouds. Assuming their flashes to be electric, may they not be similar to the sparks which issue from the steam of locomotive boilers?

Scarcely less remarkable than the volcanic lightnings, are the vitrifications from lightning observable on the rocks of lofty mountains such as Mont Blanc. But the greatest heights of thunder-clouds is said to occur above plains. Fatal thunder-storms have burst forth above plains, the estimated elevation of which, so high were they, was not less than twenty-six thousand feet; and fatal thunder-storms have raged in valleys the upper surface of which was not more than ninety-two feet.

Forked or zigzag lightning has been observed describing the track of a V and of a reversed A. Trident or three-pronged lightnings have been seen within the volcanic dust clouds of Mont Etna. Kaemtz, the German meteorologist, saw a flash of lightning split into three forks. A three-pronged flash of lightning struck at Freiburg on the 25th of June, 1794: the middle point struck a house near the cathedral, the southern prong set fire to a house near a mill in the suburb, and the northern prong or flash set fire to a cottage near an adjoining village. The ancients called fork lightning, when it struck the ground, the thunderbolt. In sheet lightnings the clouds seem to rend their black veil and reveal their inward brightness.

Lightning often resembles balls of fire differing in size from the size of bullets, to that of eggs, bombshells, globes, casks, and balloons.

Lightning has been known to strike upwards. An astonishing instance of this occurrence is recorded by Arago. Upon the top of Mount St. Ursula, a lofty mountain in Styria, there is a church. On the 1st of May, 1700, Jean Baptiste Werloschnigg, Doctor in Medicine, and a group of other persons, were standing in the porch of this church upon the top of the high mountain. Down the mountain, and half way towards the bottom of the valley, black clouds were gathering, and soon they displayed

all the grandeur and terror of a great thunder-storm. The spectators in the porch of course deemed themselves quite safe where they were, the air being serene around them and the sun shining on them brightly, yet seven of them were struck down dead. Lightning darted suddenly up from the upper surface of the cloud, and killed them by Dr. Werloschnigg's side, on whose testimony the extraordinary fact is recorded by M. Arago.

Professor Charles Wheatstone, by curious calculations and ingenious machines, found out how to estimate the duration of a flash of lightning. This is not the place to explain how time can be calculated to the thousandth part of a second. But it may be stated here that he ascertained from his experiments, and competent men accepted his results, that the most brilliant fork and the widest sheet lightnings endure less than the thousandth part of a second of time. But I have to state a greater wonder still. The duration of the spark of the electrical machine is not the millionth part of a second, and yet I have seen Mr. Talbot produce photographs by its transient light!

Thunder-clouds occur which are continuously luminous. The sky at Beziers, says M. Rozier, on the 15th of August, 1781, became, after sunset, quite dark, and whilst he was watching the lightnings, a band appeared about three feet wide, and stretching an angle of about sixty degrees. Then, there came another above it about half the length with a space of equal length between them. These luminous zones were nearer the earth than the storm-clouds, and lasted nearly a quarter of an hour.

Beccaria of Turin records having seen in very dark winter nights, and during the intervals between falls of snow, clouds emitting red light sufficiently bright to enable him to read ordinary print. The phosphorescence of clouds must not be confounded with the aurora borealis. General Sabine, and President of the Royal Society, when engaged in determining the lines of magnetic force, remained some time at anchor in Loch Seavig, in the Isle of Sky. This loch is surrounded with high mountains of bare rock, one of which is almost always in a cloud of vapours, brought by south-westerly winds from the Atlantic. Streamers ascended from it. But although they resembled auroras, they proceeded from the cloud itself, and were not auroras seen through it. Irish fogs are sometimes phosphorescent.

The "corn-black" of the Swedish and Scottish peasants, is silent lightning which is accused of blighting barley. There have been many records made of silent lightning. In some instances the lightnings flashed for a long time without any thunder having been heard. Thunder, on the contrary, has issued from clear, cloudless, and serene skies, in which no lightning was seen. Volney, to say nothing of more ancient instances, has recorded that on the 13th of July, 1788, he heard at eight and three-fourths geographical miles from New Orleans four or five thunder-claps, the sky being without clouds. These thunderings of serene skies have occurred in countries in which they

could not be referred to the subterranean noises of volcanic countries—which, by an acoustic illusion not yet, says M. Arago, satisfactorily explained—and appear to issue from the air.

The sulphur-like odour of lightning has been often described. This smell has been so strong that it has sometimes almost suffocated travellers. When Boyle, author of a General History of the Air, was residing upon the borders of the Lake of Geneva, the sulphureous smell of lightning almost overpowered a sentry. After the British ship *Montague* was struck in 1749 by a globe of fire, the smell seemed to be nothing but sulphur. At three in the afternoon of the 31st of December, 1778, the East India Company's ship *Atlas* was struck by lightning, and a sailor killed at the cross-trees, whilst a sulphureous smell was developed which lasted throughout all that day and the whole of the following night. The French ship of the line *Golymin* was struck in 1812; "and in going," says an eye-witness, "through the ship after the accident, I was accompanied by an officer and the master gunner. On arriving at the great powder magazine in the after-part of the ship I found it untouched, but when I had the adjoining bread-room opened there issued from it a thick and black smoke, and sulphureous smell, which nearly suffocated us, although the master gunner had opened the door a very little way, and instantaneously reclosed it. We directly afterwards entered the place and found no trace of fire, but a complete overturning of its contents; more than twenty thousand biscuits had been tossed about without our being able to find any traces of the path which the fulminating matter must have followed to arrive at the spot."

Liebig found nitric acid combined with lime or ammonia in rain-water which had fallen during a thunder-storm. And it was in nitric acid that Priestly, Cavendish, and Lavoisier reunited the azote and oxygen gases of which the atmosphere is compounded.

Lightning fuses metals. Aristotle, in his *Meteorology*, says the coppering upon a shield has sometimes been melted without the wood on it having been injured. "Silver money," says Seneca, "is melted without the purse which contains it being injured; the sword is fused in the scabbard, which remains unhurt; and the iron of the javelin flows down the wood, and the wood does not catch fire." Pliny says "that gold, silver, and copper contained in a bag, may be melted by lightning without the bag being burnt, and without the wax upon the seal of it being softened." In 1781, two French gentlemen, M. de Gautran and M. d'Aussac, were riding together in the neighbourhood of Castres, when they were caught in a storm. A flash of lightning at the same instant killed both their horses and M. d'Aussac. The sword which M. d'Aussac wore having been carefully examined, it was found that an upper and a lower part of the shell of the silver hilt, and about half an inch of the point of the blade, were superficially fused; and an oblong hole was pierced through the piece of iron forming the end of the scabbard. About thirteen inches from the hilt, a

small bit of the upper edge of the sword was fused, and opposite this fusion the scabbard was perforated. M. de Gautran, who was at the side of M. d'Aussac, carried a large hunting-knife, and the small silver chain which hung from the hilt to the guard of this knife, was found to be fused and detached. Fusion was observable, also, on the silver mounting of the hilt, on the silver end of the scabbard, and at the end of the blade; but, unlike the scabbard of the sword, the scabbard of the knife was not burnt at the corresponding places. Most singular are these cases, in which in apparently identical circumstances one man is killed and the other at his side is unhurt, or one scabbard burnt through, and the other unscorched. Lightning has been known to fuse the links of a chain without leaving a trace of the fusion, or of the fused links. In 1825, a gold chain was broken by lightning while it was around the neck of a lady, and the fragments were given to M. Arago, who, however, could not discover any trace of fusion upon them. The probability is, that the lost links had been volatilised by the lightning. For, when threads of gilt silk are subjected to a strong current of electricity, the gilt is volatilised, the silk threads remaining unbroken. When ships have been struck by lightning, bits of melted iron have sometimes been found burnt into the deck. And a similar thing once happened in Southwark. In the month of June, 1759, a house was struck by lightning, and the servants in one of the rooms said "they saw it raining fire." The cause of this appearance was the melting of a bell-wire, which fell down in roundish drops, burning their way into the wooden floor. Cases have occurred in which lightning has not fused metallic rods, but has softened or shortened them.

However wonderful these effects of lightning upon metals may be deemed, the effects of lightning upon stones are surpassingly wonderful. Lightning vitrifies not merely exposed rocks, but stones in the earth. In July, 1725, a flash of lightning at Mixbury, in Northamptonshire, struck upon a flock of sheep, killing five of them and their shepherd. Near the feet of the shepherd, two holes were observed, almost round for half their depth, about three or four inches across, and about three feet deep. The Rev. Dr. Joseph Wasse examined these holes, digging carefully on every side of them. Half way down, each hole forked into two branches. In the direction of one of these branch holes there was found a very hard stone, about a quarter of a yard long, five or six inches wide, and four inches thick; and this stone was divided by a recent crack, and its surface was vitrified.

A tower having been struck by lightning at Bologna, Beccaria found that the mortar, of lime and sand, had been fused into a greenish vitrification. A man taking shelter under an oak in Lord Aylesford's park, on the 3rd of September, 1789, was killed by lightning, which struck the oak. When killed, the man held a stick in his hand, and down this wet stick the lightning descended into the ground, making a hole five

inches deep, and two and a half wide. Dr. Withering, examining the spot only a few minutes after the accident, saw only in the hole some burnt roots of grass. Lord Aylesford ordered a small pyramid to be built upon the spot, with an inscription warning passers-by not to seek shelter in thunderstorms under trees. When digging for the foundation, the workmen observed that the soil forming the sides of the perforation was blackened to a depth of ten inches; and two inches lower the quartzose soil was fused. Dr. Withering sent to the Royal Society, with a memoir, specimens consisting of a quartzose stone, one of the corners of which had been completely fused, a block of sand agglutinated by the heat, there being no calcareous or limy matter among the grains, smaller pieces, all having some hollow part, and a mass having a hollow part so perfectly fused that the quartzose matter, after having flowed along the cavity, presented at the bottom of it a globular appearance.

Lightning sometimes fuses quartz sand into the form of large vitreous tubes, called fulgurites. There need be no discussion respecting this fact, for lightning has been caught in the act of making its way through sand, of fusing the sand instantly, and of forming it into long hollow vitreous tubes, sometimes thirty or forty feet long. On the 17th of July, 1823, near the village of Rauschen, in the province of Samland, near the Baltic, lightning struck a birch-tree and set fire to a juniper-bush. Several persons ran to the spot, and observed two deep and narrow holes, one of which felt warm to the touch. Professor Hagan, of Königsberg, had the holes carefully dug round. Nothing particular was observed in the first, the one which had felt warm, notwithstanding the rain, nor in the other, until they had dug more than a foot down, where a vitrified tube began. The walls of tube being extremely thin, it was fragile, and could be taken out only in fragments an inch or two long. The vitreous surface was inside, was very shining, of a pearl-grey colour, and speckled throughout its whole length with brown spots. But Boyle has recorded a fact quite as remarkable as any of these cases of vitrification. "Two large drinking-glasses, exactly alike, stood side by side upon a table. Lightning entered the apartment, and appeared to dart so directly to the glasses that it seemed as if it must have passed between them. Neither of them, however, was broken. In one, Boyle noticed a very slight alteration of the form; but the other had been so very much bent (which necessarily implies softening), that it could hardly stand upright on its base.

The holes which lightning pierces in the objects it strikes are sometimes very curious. In August, 1777, lightning struck the church of the Holy Sepulchre, at Cremona. The iron cross on the top of the church was broken, and the weathercock thrown some distance. This weathercock was made of tinned copper, and covered with a coat of oil paint. When picked up and examined, the weathercock was found to

be pierced by eighteen holes, and, what was most singular, there were nine edges of the holes standing out at each of the opposite sides! And yet the opinion of very eminent students of electricity is, that in this, as in other similar cases, the whole of the holes were pierced by a single stroke of lightning!

There is a very singular case on record of lightning doing precisely the same damage in the same church in the same month of two successive years. This occurred to the church of Antrasme, near Laval. On the 29th of June, 1763, lightning struck the steeple, fused the gilding of pictures, blackened the decorations of niches, blackened and half burnt two pewter sacramental wine-flasks, and drilled two holes in the credence-table. Of course all these injuries were repaired; the picture-frames were re-gilt, the holes were plugged, and the paint-work repainted. On the 20th of June in the following year, lightning again struck the steeple and again entered the church, re-blackening the gilt, re-burning the flasks, and driving out the plugs.

That lightning can throw heavy bodies considerable distances with great force is well known, but few persons have any adequate idea of the weight of the bodies transported, or of the force with which they are projected. Two instances will suffice to show that this power of lightning is immense. The Rev. George Low, of Fetlar, in Scotland, says that "at Funzie, in the parish of Fetlar, about the middle of the last century, a rock of mica schist, one hundred and five feet long, ten feet broad, and in some places four feet thick, was in an instant torn from its bed and broken into three large and several lesser fragments. One of these fragments, twenty-six feet long, ten feet broad, and four thick, was simply turned over. The second and larger fragment, twenty-eight feet long, ten feet broad, and five feet thick, was projected over an elevated point a distance of fifty yards. And the largest mass of the three, about forty feet long, was sent still further, but in the same direction, and right into the sea. Lesser fragments were scattered up and down. Scarcely less surprising was the force with which lightning split the mizenmast of the *Patriote* during the night of the 11th of July, 1852, in the port of Cherbourg. The mast was split eighty feet down, and one fragment, six and a half feet long and about eight inches square at the thicker end, was driven two hundred and sixty-two feet and a half, the thick end foremost, nearly half its length through an oaken plank one inch thick until stopped by a knot.

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